

DAIRY FARMERS OF ONTARIO

ON-FARM PROCESSING HANDBOOK

How to Become an
On-farm Processor

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Preface

The market for dairy products is constantly changing and can provide opportunities for entrepreneurs. Cow's milk is producer under a supply-managed system in Canada. There are regulations that define who can produce cow's milk and who can purchase it for processing. Because milk is a perishable product, there are food safety regulations that apply.

This guidebook provides the necessary resources for setting up an on-farm processing plant. It also provides insight into the process of how to get started, names of individuals who you may want to contact and identifies where to go to solve specific problems.

The Role of Dairy Farmers of Ontario

Dairy Farmers of Ontario (DFO) provides assistance and guidance to anyone contemplating on-farm dairy processing. DFO is committed to help new processors by providing coaching and necessary resources; however, how you go about it and successfully arrive at the goal of a successful dairy processing enterprise will be completely up to you. DFO encourages you to research your concept, complete a market feasibility study and business plan and to use this guidebook to enhance your research.

There are a number of dairy industry associations and government departments that you will need to become familiar with including DFO, Ontario Dairy Council (ODC), Canadian Dairy Commission (CDC), Canadian Food Inspection Agency (CFIA) and the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) as you research the various processing needs and regulatory requirements. It is important that you familiarize yourself with the roles and responsibilities they have in the dairy industry and how these organizations interact to develop policies and regulations to ensure dairy products are processed in a safe manner.

All dairy processing plants in Ontario need to be licensed by OMAFRA, and if you wish to ship product outside of the province the plant will also need to become federally registered with CFIA.

Getting Started

There are a number of areas to consider as you begin this process including everything from what product you intend to process to where and how you will market your product.

To simplify the planning process we have broken down what you need to do into eight steps:

1. What market do I want to develop?
2. Learn from others!
3. Who should I contact?
4. Finance and budget.
5. Site planning.
6. Sourcing processing equipment.
7. Milk allocation and transportation.
8. When you have a question, who to call?

- 1. What market do I want to develop?** Decide on a product you want to sell, research the market and conduct a market feasibility study to assess potential markets. This can be as complicated as hiring a marketing firm to conduct a full-blown market analysis or as simple as visiting local grocery stores to inquire about potential market opportunities. This step is very important as the results will establish whether there is market potential for your product. It is very important at this point that you determine whether the product you intend on producing requires plant supply quota or whether the milk is quota free and supplied on demand. There are special programs available that could provide milk if the product you wish to develop is new to the market. Your processing plant must be federally inspected by the Canadian Food Inspection Agency (CFIA) if you intend to market your product in other provinces, or provincially inspected by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) if your product is only marketed in Ontario. DFO can provide assistance on information you need as you navigate through this process.
- 2. Learn from others!** Discuss your interest in on-farm processing with existing on-farm processors. Contact an on-farm processor who is marketing a product similar to what you intend on producing. Valuable experience can be sourced from other producers who have already gone through the same process you are about to embark on.
- 3. Who should I contact?** Each area of your project will require expert assistance. For instance, planning your processing facility will require site planning, regulatory approvals and you will need to contact the right people or agencies for assistance. This manual contains a section on resources - where you can find the people or agencies you need to contact. Agencies you will need to contact include: DFO, OMAFRA processing plant licensing personnel and local government agencies for zoning and building permits. See Appendix A for DFO and OMAFRA contacts.
- 4. Finance and budget.** Determining the cost of planning and building the processing facility, marketing costs and borrowing requirements should be discussed with your financial institution as soon as practical to ensure funds for the project are available. Grants through federal and provincial agencies may also be available for your project and DFO or its service provider can inform you of any potential programs that exist. Preparing a complete business plan early in the process is essential so that discussions with financial institutions can be initiated.
- 5. Site planning.** Where you plan to situate your site must be carefully considered because of the unique circumstance of operating a dairy farm beside a food processing operation. Location of manure handling and storage, lane and turn around distances as well as milk piping distances from milk house to processing room are all important considerations. Local and provincial building codes must also be taken into consideration. During the planning stage you should contact OMAFRA and DFO to review applicable regulations and DFO Board policies.

- Processors should choose general contractors and design firms that have had experience building /designing food plants and preferably dairies. There are several sanitation chemical supply companies that can help dairy plants with their cleaning and sanitizing needs.
 - It is important that the processor work with local municipalities and/or the MOECC to have an approved plan to properly dispose of wastes (in particular whey waste) from the processing operations.
6. **Sourcing processing equipment.** Once you have determined you will be operating your own plant, you will need to source the equipment. You will need to investigate regulatory requirements for all milk and ingredient processing equipment, utensils and product handling equipment. Your best sources of information about dairy processing equipment are existing on-farm processors. They can provide valuable information based on their experience with suppliers.
 7. **Milk allocation and transportation.** Understanding how milk allocation and transportation policies work is very important as these issues will impact your processing business. DFO is your best source for information in this area and can provide you with copies of written milk allocation and transportation policies and provide answers to your questions. You can access these on the DFO website or contact the assigned DFO or its service provider.
 8. **When you have a question, who to call?** Setting up an on-farm processing plant is complicated and requires you to investigate a variety of issues from a number of different organizations. The Appendices at the end of this guidebook provide the contact information of the people and organizations that you will need to involve in your planning process. If you reach a point in the process where you are unsure about who to contact or what to do, call DFO or its service provider and you will be provided with assistance.

Choosing a Market

Processors of on-farm dairy products can choose from three types of markets:

Local Markets

The local market for dairy products is mainly household purchases for home consumption. Consumers may find dairy products at the farm gate (on-farm store), in farmers markets, at supermarkets or local restaurants.

Processors should consider selling products at the farm gate to maximize the consumer's dairy experience. This is the only way processors have the opportunity to connect with customers, introduce products and build the emotional connection between customer, product and processor.

Food Service

Hotels, restaurants, bakeries and other food businesses are often good markets for butter, milk, yogurt and cheese products made by on-farm processors.

A processor can rely on continuous demand and steady growth of business in these markets. Product quality, reliability of supply and relationship between the food service operator and the producer are key in such situations.

Wholesale

Wholesale or institutional customers are more likely to be represented by professional buyers who are experienced at negotiating prices, terms and conditions of sale, and buy products using contracts. They are also likely to know in detail what competitors are offering, and it is worthwhile for a person considering processing to conduct research into service standards and prices with potential customers.

The Competition

Processors know who their customers are and what services they want. They also know the strengths and weaknesses of competitors, and constantly strive to improve their products and the service they offer, so gaining advantage over them.

Product Development

In order to produce any product range, a processor needs:

- sources of recipes and ideas for innovative products;
- technical knowledge and skills to produce products with consistently high quality;
- facilities and equipment to produce the products;
- careful market analysis to ensure that the products meets consumer needs;
- careful production planning to ensure that all ingredients are available;
- detailed costing for each type of product; and
- analysis of sales data to identify which products are popular and profitable.

Market Research

Feasibility Study

The first step to successful on-farm processing is to determine what product or products to make. However, having an idea is not enough. The processor needs to investigate if the idea is feasible. A feasibility study can help you decide if your business is worthwhile. It could help you take a step back and look objectively at the strengths, weaknesses, opportunities and threats of your proposed business venture. Will your idea work? Is it a sound concept? Is your idea viable or will it need a few changes before you invest time and money into this business?

Business Plan

Once you establish that your business idea is feasible, you can proceed with a business plan. Much of the information that you have gathered for the feasibility study can be used for this. The business plan includes financial forecasts, marketing strategies and information on how you plan to start and grow your business.

Marketing

“Putting the right product in the right place, at the right price, in the right package and at the right time.”

It's simple! You just need to create a product that a particular group of people want, offer it for sale where people visit regularly, and price it at a level which matches the value they feel they place on it; and in a package customers will be attracted to and at a time they want to buy.

But if you get just one element wrong, it could affect success. You could be left promoting the best cheese and pricing it too high or too low and not being able to attract your target customers.

This is why the marketing mix is a good place to start when you are thinking through your plans for a product or service, and it helps you avoid these kinds of mistakes.

The marketing mix and the Five Ps of marketing are often used as synonyms for each other. In fact, they are not necessarily the same thing.

One of the best known models is the Five Ps, which helps you define your marketing options in terms of product, place, price, packaging and promotion. Use the model to optimize the impact with your target market.

Product

- What does the customer want from the product? What needs does it satisfy?
- What features does it have to meet these needs?
- What does it look like? How will customers experience it?
- What size(s), color(s), and so on, should it be?
- What is it to be called?
- How is it branded?
- How is it differentiated versus your competitors?

Place

- Where do buyers look for your product or service?
- If they look in a store, what kind? A speciality cheese store, farmers market or in a supermarket, or both? Or online? Or direct from the farm?
- How can you access the right distribution channels?
- Do you need to use a sales force? Or attend trade fairs? Or make online submissions? Or send samples to catalogue companies?
- What do your competitors do, and how can you learn from that and/or differentiate?

Price

- What is the value of the product to the buyer?
- Are there established price points for products in this area?
- Is the customer price sensitive? Will a small decrease in price gain you extra market share? Or will a small increase be indiscernible, and so gain your extra profit margin?

- What discounts should be offered to trade customers, or to other specific segments of your market?
- How will your price compare with your competitors?

Packaging

- How distinguished is your product from the competition?
- Retail packaging or wholesale packaging?
- Private labels or your own brand?

Promotion

- Where and when can you get across your marketing messages to your target market?
- Will you reach your audience by advertising in the press, or on TV, or radio, or on billboards? By using direct marketing mailshot? Through PR? On the Internet?
- When is the best time to promote? Is there seasonality in the market? Are there any wider environmental issues that suggest or dictate the timing of your market launch, or the timing of subsequent promotions?
- How do your competitors do their promotions? And how does that influence your choice of promotional activity?

The Customer

Dairy processors should recognize that their customers are the most important people in their business. They should also remember that a customer is the person who buys the food and a consumer is the person who eats it – these are not always the same people.

Customers can also be wholesalers or retailers as well as consumers. The only way a business can survive is if its customers and consumers are satisfied with the product and service offered to them.

To achieve this satisfaction, processors need to develop attitudes, ways of thinking and actions that reflect the importance of their customers, and are focussed on the aim of satisfying them.

- Talk to your customers and find out what they like and dislike about each product;
- Develop customer-oriented attitudes so that they feel valued when the processor deals with them; and
- Make sure staff understand that “the customer comes first”.

Supply of Milk

In order to obtain a licence to build a dairy plant, OMAFRA will first send a notice to industry stakeholders including the Ontario Dairy Council and DFO. These stakeholders have 30 days to comment on the impact your new operation might have on their business. This process is in place to address industry concerns related to the availability of cow milk for processing.

Milk sold in Ontario/Canada is utilized and paid for based on a classified pricing system, i.e., Classes 1 to 5. Each product within a milk class is priced based on the kilograms of butterfat, protein and other solids that are utilized to manufacture the dairy product. Plants requiring milk

for the manufacture of products that fall within milk Classes 1 and 2 generally do not require plant supply quota; however, for more information, please refer to the *DFO Milk Allocation Policies* book.

Plants requiring milk for the manufacture of products falling within milk classes 3a through 5 must possess plant supply quota (PSQ), before they can begin receiving milk from DFO. For more information, contact DFO or its service provider.

Available Milk Supply for 2a/3a Growth

The P5 growth allowance provides up to 3 million litres of milk annually for growth in 3a products. The allocation of the milk is contingent on the products (manufactured) meeting specifications listed under section 3a in the Milk Classification Table. Further information can be found in the *DFO Milk Allocation Policies* book.

Dairy Innovation Program (DIP)

The Dairy Innovation Program (DIP) is designed to grant flexibility to the National Milk Marketing Plan by providing a mechanism whereby those who wish to produce new and innovative dairy products, as defined in the Canadian Dairy Council Act (CDC), can access the milk they need outside of existing provincial plant supply allocations. By encouraging such new development, the overall demand for milk is expected to increase. Details about the DIP and the CDC are listed in the Appendices of this guidebook.

Planning your Facility

Dairy Production Issues

Planning the location of your new processing facility requires that you take into account a number of factors including building code regulations and various other regulations. Processors should read the details of each regulation outlined in the handbook Appendices including Ontario Regulation 761, CFIA, OMAFRA and DFO requirements.

OMAFRA will provide an information kit for building requirements when the client applies for a plant licence.

Some highlights of common issues include:

- dairy barn location;
- cross-contamination and bio-security;
- farm yard and lane access issues; and
- milk transfer from milk house to processing plant.

If Building a New Barn or Dairy Processing Facility

When constructing a new barn, milk house or processing facility it is important to take a number of factors into consideration including location of manure handling facilities, farm equipment storage and movement of trucks and vehicles. Staff parking for the dairy production and processing facilities for instance must be taken into account so that traffic bottlenecks are not created at any time.

When planning your new facility, follow all appropriate building codes and local requirements. It is also crucial that your site plan reduces the pressure that the processing facility will bring to the busy area around the milk house, barn and equipment buildings.

Cross-Contamination and Biosecurity

Building a Processing facility close to a dairy production facility presents some challenges in the area of cross contamination. Cross contamination can occur as a result of the movement of people and equipment from the barn to the processing facility. Cross contamination can also occur as a result of air movement from the milk house to the processing milk storage room by way of piping tunnels used to house milk transfer pipes.

To reduce the chance of milk contamination, procedures must be put in place. For instance if you are constructing a piping tunnel from the milk house to the processing milk storage area, the installation of air baffles will help to eliminate the potential for barn odors to enter the production facility.

Cross contamination from the dairy facility and manure handling system can occur if the processing plant is located close to manure storage. The main concern would be if odors from manure storage or from manure that is spread on fields permeates to the milk processing facility. When building a new barn you must conform to existing Minimum Distance Requirements, however, locating manure storage in relation to prevailing winds should also be taken into consideration.

Farm Yard and Lane Access Issues

The number of vehicles that will use your existing farm yard and lane will increase once you have an operating processing facility so it is important to plan accordingly. Factors to take into account include the following:

- In addition to parking requirements for barn-related visitors, plan for extra parking areas for employees or customers visiting your processing facility.
- Travel routes for farm equipment used to move manure, feed or animals should be located to minimize lane contamination. A separate travel area for such vehicles is recommended.
- Any additional travel areas constructed for use by the milk transporter must comply with *DFO Farm Yard and Lanes Policies*.

Milk Transfer from Milk House to Processing Plant

Moving milk from your production facility to your processing facility must be planned so as to ensure milk quality is not compromised.

Two factors to consider are:

- a) how the milk piping or transfer tank will be cleaned in place (CIP); and
- b) whether milk temperature will be affected through the milk transfer process.

CIP system for cleaning the transfer pipes must meet standards set-out within provincial regulations. Because the length of the transfer pipe can be of extended length, it is important to

ensure that hot water wash temperatures and cleaning turbulence; as well as milk temperature are not affected. It is imperative that measures for maintaining appropriate wash requirements and milk temperatures be planned for and accommodated.

Dairy Processing Issues

Plant Location: The environment surrounding a dairy processing facility is an extremely important consideration. A dairy plant located in close proximity to livestock presents special concerns. Consider the following when choosing the location for a dairy plant.

Prevailing winds: The processing areas should not be downwind to strong odors from animal housing or feed and manure storage. Adequate air filtering devices must be installed on air inlet fans to prevent the entrance of dirt and dust, and exhaust outlets must be screened or have self-closing louvers to prevent the entrance of insects.

Proximity to livestock: Visitors to your facility may enjoy seeing your animals, but unfortunately, maintaining the cleanliness in a milk processing plant is difficult when animals are just outside the entrance. Insect control alone can be difficult when animals and the manure they produce are close by. Animal odors and the dust created by feeding and bedding can also be problematic.

Runoff: Water running from animal housing into plant traffic areas during heavy rains can and will introduce manure into areas where it can contaminate the processing area and products.

Accessibility: Provide easy access for trucks delivering supplies to the plant and shipping product out of the plant without crossing through areas contaminated by livestock waste.

Personnel Traffic Patterns: It is important to maintain a clean environment in and around a dairy processing plant. This can only be accomplished by controlling the cleanliness of the people who walk through and work in your facility. Clean clothes and footwear, as well as adequate hair and beard covering, is required for anyone working in or visiting the plant.

Employees who work with or around livestock should not be allowed to enter the processing plant without a shower, complete change of clothes and footwear. It is extremely important to strictly maintain these policy bio-security measures in order to help prevent the spread of pathogenic organisms commonly found in farm environments.

Post pasteurization contamination of dairy products is a leading cause of product recall. Bacteria such as *Listeria monocytogenes*, *Salmonella*, *Campylobacter*, *Coliform*, and many others are serious public health threats as well as product threats. Stringent efforts must be made to minimize the possible entrance of these pathogens into the dairy plant environment.

Always approach the dairy plant with concern for preventing disease transmission. At facilities where the dairy plant is on the same premise as the dairy farm, all traffic should visit the dairy plant prior to visiting the dairy farm. Avoid driving or walking through barnyards, feed lots, manure, and feed storage or holding areas.

Regulations – What You Should Know

OMAFRA should be consulted early in the planning stages of a processing plant. In doing so, one of their Dairy Plant Specialists can work with the processor to be sure their facility will meet regulatory requirements and be located and designed to reduce food safety risks associated with an on-farm processing operation.

- The applicant should submit a letter of intent to the Director of the OMAFRA Food Inspection Branch as the first step in seeking a licence. This will trigger OMAFRA to send the necessary applications for licensing plus an information package with the relevant regulations, and a document detailing OMAFRA's "Guidelines for On-Farm Dairy Processing"
- Prior to any construction taking place for a processing plant the applicant must apply for a permit to construct or alter a building for use as a dairy plant and have approval from the Director, Food Inspection Branch at OMAFRA

For product labelling requirements, processors should consult with their local CFIA office to ensure that product labels are compliant with the federal regulations, as CFIA has jurisdiction over labelling.

Individuals looking to establish an on-farm processing operation should have a good knowledge of the manufacturing processes for the products they wish to make, including quality and food safety considerations, through their experience or new training.

Federal Government Regulations

The Canadian Dairy Commission (CDC) provides relevant funding and federal programs and the DFIA provides registration and operational requirements and guidelines for On-Farm Dairy Processing Plants.

The National Dairy Code is outlined on the Canadian Dairy Information Centre website.

Supply of Milk

All bovine milk in Ontario must be purchased from DFO. DFO is the sole legal purchaser from the producers and seller to the processors of unpasteurized milk, in accordance with the Milk Act. This applies to on-farm processors as well, even if their own milk is internally transferred from the milk house to their own processing plant on the same farm. Ontario Regulation 761 outlines a number of the requirements associated with the production and processing of cows' milk in the province. DFO may only sell unpasteurized cow milk to a company or dairy processor that has been licensed by OMAFRA. To purchase and process unpasteurized milk in Ontario, a company must obtain a licence for the operation of a plant from OMAFRA. The Director of the Food Inspection Branch, Dairy Food Safety Program is responsible for the issuing of dairy processing licences. The Dairy Food Safety Program manager can provide licensing details. Under the Milk Act (Ontario), all dairy processing plants are required to be licensed.

Once an application for a licence has been received by the government, a notice is distributed to all industry partners (such as the Ontario Dairy Council and DFO) asking them for comment on the application. All parties have the opportunity to either support or oppose the application. Based on the comments received, the Director of the Food Industry Branch may elect to call a hearing to provide all parties with the opportunity to formally present their arguments. Upon completion of the hearing, the Director will indicate when the decision on the application can be expected. Regulation 761, Section 100 outlines the reasons why the Director may refuse to issue or renew a licence for the operation of a plant.

Links to the resources outlined above can be found in the Appendices of this handbook.

Dairy Farmers of Ontario Requirements

If a producer/processor receives a licence for the operation of an on-farm processing plant, DFO may begin selling milk to the company providing the company satisfies the requirements of the industry's financial credit program. As milk is sold and delivered in advance of payment, DFO requires assurances that the company has sufficient equity to cover approximately two months of milk purchases. These conditions may be more flexible for a licensed dairy producer who is starting an on-farm processing operation.

Milk Allocation

Prior to transferring milk from the milk house or having milk delivered to a processing plant, DFO must receive a copy of the OMAFRA licence and assign a plant number to the new processing facility.

Example of Milk Ordering Process:

- The processor would contact DFO Web Support to set up a password to access Processor Services on the DFO website.
- DFO's on-line milk ordering is used to either have the milk measured, to receive additional milk or to have milk picked up.
- Consideration must be given to the time/day milk is required at the plant.
- The transporter may be limited to the time the Bulk Tank Milk Grader (BTMG) can be at the farm to measure, pump and/or unload. This timing needs to be accounted for in the plant's production schedule.
- The BTMG will come to the farm to measure and grade the milk.
- Depending on the volume required by the plant, the BTMG will pump any milk not required for processing onto the truck for delivery to another processing plant.
- Standard operating procedures for the BTMG need to be established prior to first delivery of milk to the plant.

Example of Procedures followed by a Bulk Tank Milk Grader (BTMG)

- A paper milk collection report is completed or entered on the handheld computer.
- If a paper report is used, it is faxed or scan/mailed to milk_allocation@milk.org.
- The producer will indicate the volume that they wish to keep for on-farm processing. The BTMG consults the dipstick chart for the reading that corresponds to the litres that the producer needs to keep for his on-farm processing.

- All of the milk is measured and a sample is taken.
- The BTMG starts the pump and pumps milk out of tank until the milk reaches the dipstick level of the volume that the processor is retaining and the pump is shut off.
- The milk is then re-measured and this information (dipstick, actual volume) is entered on the paper report or handheld computer.
- The volume of milk that went onto the truck is then entered on the computer.
- The volume of milk being sent away for off-farm processing will be the difference between the total volume collected and the volume that is being held back for on-farm processing.

Why Milk is Processed

Cow's milk has a low acidity and a high nutrient content, which makes it the perfect breeding ground for bacteria. As a result, it both spoils quickly and can support bacteria that cause food poisoning (pathogens). The main reason for processing milk is to preserve it and make it safe by destroying any bacteria that contaminate it. The bacteria may come from the animal, insects that fall into the milk, utensils used in processing, or from the hands of operators. Infections in the animal that cause illness may also be passed directly to consumers through the milk. It is therefore extremely important that quality assurance procedures are in place to ensure that no harmful bacteria remain in the processed products.

Primary methods of processing milk for microbiological risks are:

1. Heat treatment as in pasteurization.
2. Fermentation as in production of yogurt and cheese.
3. Concentration as in removing water from milk by membrane processing, or from cream by churning as in the case of butter making.

Contamination of milk with antibiotics is caused by inadequate milk withholding time following the treatment of mastitis and other diseases. In Ontario, there are strict limits on the use of antibiotics, and regular testing ensures that milk containing inhibitors is not processed.

Depending on the type of products that are selected for manufacturing, one or more processing methods might be required. There is a wealth of information available in the public domain on types of products that can be manufactured on a small scale and on the methods to manufacture these products. A list of documents and additional resources that may be helpful is included in the Appendices.

Appendix A - Industry Contacts

Dairy Farmers of Ontario

Angela Maningas, 905-817-2119
angela.maningas@milk.org

Dairy Farmers of Ontario Service Provider

Initial Customer Start-up Support
Barbara Kephart, ODScore, 519-265-3845
barbara.kephart@odscore.com

Ontario Ministry of Agriculture, Food and Rural Affairs

OMAFRA Food Safety Advisor
Rick Bond, 519-826-4089
rick.bond@ontario.ca

Appendix B - Additional Resources

Federal Resources

The Canadian Dairy Commission provides details about funding and federal programs:
<http://www.cdc-ccl.gc.ca/CDC/index-eng.php?id=3812>

National Dairy Code, Canadian Dairy Information Centre:
http://www.dairyinfo.gc.ca/index_e.php?s1=dr-rl&s2=canada&s3=ndc-cnpl&s4=09-2013

Canadian Food Inspection Agency (CFIA): Safe Food Production Systems - Technical References
<http://www.inspection.gc.ca/food/safe-food-production-systems/technical-references/reference-listing/eng/1375038742229/1375038784748>

Canadian Food Inspection Agency (CFIA's) Dairy Establishment Inspection Manual (DEIM). The DEIM is a nationally accepted document developed by industry and government that sets out standards for dairy processing operations.
<http://www.inspection.gc.ca/food/dairy-products/manuals-inspection-procedures/dairy-establishment-inspection-manual/guidance-document-for-on-farm-dairy-processing-ope/eng/1457718842083/1457718902154>

Domestic Dairy Product Innovation Program (DIP):
<http://www.milkingredients.ca/index-eng.php?id=m282> 147<http://www.omafr.gov.on.ca/english/food/inspection/dairy/page-2.htm>

Provincial Resources

The University of Guelph 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, Food and Rural Affairs has a guide for Starting a Food Processing Business that details the initial steps in product development and market research:
http://www.omafra.gov.on.ca/english/food/inspection/dairy/tableofcontents.htm?iter=53d793bdef121&utm_source=shortlinks&utm_medium=web&utm_campaign=bw92

And Guidelines for On-Farm Dairy Processing Plants, Dairy Food Safety Program, Food Inspection Branch:

<http://www.inspection.gc.ca/food/dairy-products/manuals-inspection-procedures/dairy-establishment-inspection-manual/guidance-document-for-on-farm-dairy-processing-ope/eng/1457718842083/1457718902154>

Milk Act (Ontario): Ontario R.R.O. 1990 Regulation 761:

<https://www.ontario.ca/laws/regulation/900761>

Ontario Dairy Council:

<http://ontariodairies.ca/frameset/index.htm>

Dairy processing requirements and inspection:

www.ontario.ca/bw92

Licence application to operate a plant as well as to purchase and process unpasteurized milk in Ontario: The Director of the Food Inspection Branch, Dairy Food Safety Program is responsible for the issuing of dairy processing licences. Further information on the ministry's requirements may be obtained by contacting the Dairy Food Safety Program Manager.

<http://www.omafra.gov.on.ca/english/food/inspection/dairy/tableofcontents.htm>

Growing a food processing business - Marketing and new product strategies:

<http://www.omafra.gov.on.ca/english/food/business-development/food-processing/growing.htm>

Dairy Farmers of Ontario (DFO)

<https://www.milk.org/Corporate/View.aspx?Content=Processors/Processors>

Plant Milk Receiving Guidelines:

<https://www.milk.org/Corporate/pdf/PlantMilkReceivingGuidelines.pdf>

Inhibitor Pre-Screening Program:

<https://www.milk.org/Corporate/pdf/Processors-InhibitorProcedures.pdf>

Dairy Processing in Ontario:

<https://www.milk.org/Corporate/View.aspx?Content=Processors/DairyProcessing>

Sources for Details about preparing a Feasibility Study and Business Plan:

- Local Bank
- www.canadianbusiness.ca
- www.entrepreneur.ca

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