



Taking the Pathway

Understanding
career direction in
Cheesemaking





Food Processing Skills Canada

FPSC is your labour, skills and workforce development non-profit organization.

Our job is to provide leadership in professionalizing the food and beverage manufacturing industry so that the most important resource - people - are the best in the world. We have developed a national skills strategy which is a proven long-term approach successfully utilized by other Canadian professional sectors. This strategy builds collaborations with industry, government, academia, unions, associations, community organizations and other stakeholders.

Canada

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About Taking the Pathway

Canada's Agri-Food sector is a significant foundation of our nation's economy and was recently identified as one of Canada's top growth industries over the next 10 years. Despite this, the sector continues to face a critical labour shortage that, if left unresolved, will impede the industry's growth, employment opportunities, and overall sustainability.

To address this shortage, Food Processing Skills Canada (FPSC) has embarked upon a landmark Labour Market Information Study (LMI). In its finality, the LMI will provide government and decision-makers with the research needed to make real regulatory change that will bring both prosperity and opportunity to the sector.

Understanding Your Career Pathway in Cheesemaking lays crucial groundwork for the LMI by defining occupations and career pathways in the dairy processing sector. Utilizing this data, the LMI will take in-depth reviews of each career pathway, and their specific challenges and opportunities.

How to use the Career Pathway

This document provides practical information about the career pathways available for workers involved in cheesemaking. In a time when attraction and recruitment of workers is important to keep up with demand, the career pathway can be helpful to educate potential workers about the opportunities and career pathways within the sector. The career pathway is a helpful tool for employers to attract, recruit and retain productive and skilled workers.

Understanding the Career Pathway

The career pathway for cheesemaking illustrates the progression of occupational levels from foundational skills to executive management. The career pathway is comprised of six (6) levels. The typical entry-point into the cheesemaking industry is at the Foundational Skill Level. With work experience



and training (often offered on-the-job), workers often progress along on the career pathway.

Some facilities produce cheese and other dairy products, like fluid milk, yogurt and ice

cream. Typically, workers with no previous experience will begin their careers in dairy processing and fluid milk production. After gaining experience on the line, they typically then move onto cheesemaking.

occupational levels

Foundational Skill Level (FS)

Foundational Skill Level positions are often the entry-level positions or those jobs that required no prior experience or training to work in a cheesemaking facility. A high school diploma or equivalent may be preferred but is not required by most businesses. Training for foundational skill level jobs most often occurs on the job; job shadowing is important for these entry-level positions.

Applicable NOC Code(s)

NOC 95106 - Labourers in food and beverage processing

Sample Titles for Foundational Skill Level Jobs related to cheesemaking include:

- ◆ Cheesemaker helper
- ◆ Cheese cutter
- ◆ Cheese factory worker

Labourers may also assist with packaging and support the work of machine operators (semi skill level workers) by feeding cartons and packaging materials into machinery, etc.

Semi Skill Level (SS)

Semi Skill Level workers typically have 6 months – 1 year of experience working in dairy processing/cheesemaking facilities. A high school diploma is often preferred but may not be a requirement. Workers in this job class typically receive training on the job and also receive WHMIS, food safety and food safety management system training, like HACCP. Workers who start in Foundational Skill Level Positions often progress into Semi Skill Level positions as they gain additional experience and training. Cheesemaking certification, or cheesemaking training, may be required for career progression.

Applicable NOC Code(s)

NOC 94140 - Process control and machine operators, food and beverage processing

Sample Titles for Semi Skill Level Jobs related to cheesemaking include:

- ◆ Cheese blender
- ◆ Cheese cooker
- ◆ Cheese grater
- ◆ Cheesemaker
- ◆ Cottage cheesemaker
- ◆ Cream cheesemaker
- ◆ Grated cheesemaker
- ◆ Sliced cheesemaker

High Skill Level (HS)

High Skill Level Workers typically have at least 1 year of experience (typically 1-3 years) in cheesemaking or dairy processing and are able to perform the range of tasks that are completed on the production/processing line. A high school diploma is considered an asset. Cheesemaking certification may be required. Additional training related to supervising workers may be provided in-house. Workers receive WHMIS, food safety and food safety management system training. Workers in Semi Skill Level positions often advance to High Skill Level positions as they gain additional experience and training.

Applicable NOC Code(s)

NOC 94143 - Testers and graders, food and beverage processing

NOC 92012 - Supervisors, food and beverage processing

Sample Titles for High Skill Level Jobs related to cheesemaking* include:

- ◆ Cheese grader
- ◆ Moisture content tester - dairy products
- ◆ Quality control checker - food and beverage processing
- ◆ Head cheesemaker
- ◆ Cheesemaking lead hand

*No 'cheese' specific titles are included in the titles index within the NOC Code 92012.

Supervisory Skill Level (S)

Supervisory Skill Level workers typically have 2-3 years of experience on the line of a cheesemaking or dairy processing facility. Additional training in production management, supervising and employee management may be required and provided by the company. A high school diploma or equivalent is often required; additional post-secondary education is an asset. Cheesemaking certification may be required. It is typical for supervisors to begin at the Foundational Skill Level, and through experience and additional training, move up into supervisory roles. Supervisors must complete WHMIS, food safety and food safety management system training.

Applicable NOC Code(s)

NOC 92012 - Supervisors, food and beverage processing

Sample Titles for Supervisory Skill Level Jobs within cheesemaking include:

- ◆ Cheesemaking supervisor
- ◆ Production supervisor
- ◆ Food product grader supervisor



Management Skill Level (M)

Management Skill Level workers typically have a minimum of 5 years of supervisory experience within the cheesemaking or dairy processing industry. Leadership experience is considered an asset. A post-secondary education may be required or considered a strong asset. Additional training in management is often required of job incumbents. Managers require WHMIS, food safety and food safety management system training. Many facilities will seek out Certified Cheesemakers for these positions.

Applicable NOC Code(s)

NOC 90010 – Manufacturing Manager

Sample Titles for Management Skill Level Jobs within cheesemaking include:

- ◆ Cheesemaking Manager
- ◆ Production Manager

Senior Executive Leadership Skill Level (SE)

Senior Executive Leadership Skill Level workers typically have extensive experience (e.g., 7-10+) years within the cheesemaking or dairy processing industry, or within other food and beverage processing facilities. They are responsible for managing corporate affairs and lead the strategic direction and vision of the overall organization. Skills in organizational management and business administration are critical.

Applicable NOC Code(s)

NOC 90010 – Manufacturing Manager

Sample Titles for Senior Executive Leadership Skill Level Jobs within cheesemaking include:

- ◆ Director of Operations/
Production
- ◆ VP of Operations/Production

cheesemaking

POSITIONS/ CAREER PATHWAY

SE SENIOR EXECUTIVE LEADERSHIP

M MANAGEMENT

S SUPERVISORY

HS HIGH SKILL

SS SEMI SKILL

FS FOUNDATIONAL SKILL

| | SAMPLE TITLE | EXPERIENCE / EDUCATION |
|-----------|--|---|
| SE | <ul style="list-style-type: none"> ◆ Director of operations/production ◆ VP of operations/production | <ul style="list-style-type: none"> ◆ 7-10 years of experience in the dairy processing/cheesemaking industry is the most significant requirement |
| M | <ul style="list-style-type: none"> ◆ Cheesemaking manager ◆ Production manager | <ul style="list-style-type: none"> ◆ Minimum of 5 years of experience in dairy processing/cheese making industry ◆ Degree or diploma in food science may be considered an asset ◆ Leadership experience |
| S | <ul style="list-style-type: none"> ◆ Cheesemaking supervisor ◆ Production supervisor ◆ Food product grader supervisor | <ul style="list-style-type: none"> ◆ 3-5 years of experience in dairy processing/cheesemaking industry ◆ Cheesemaking certification may be required ◆ High School Diploma |
| HS | <ul style="list-style-type: none"> ◆ Head cheesemaker ◆ Cheesemaking lead hand ◆ Cheese grader ◆ Moisture content tester- dairy products ◆ Quality control checker - food and beverage processing | <ul style="list-style-type: none"> ◆ Minimum 1 year of experience as dairy processing worker ◆ Cheesemaking certification may be required ◆ High School Diploma may be required |
| SS | <ul style="list-style-type: none"> ◆ Cheese blender ◆ Cheese cooker ◆ Cheese grater ◆ Cheesemaker ◆ Cottage cheesemaker ◆ Cream cheesemaker ◆ Grated cheesemaker ◆ Sliced cheesemaker | <ul style="list-style-type: none"> ◆ Experience as a labourer may be required ◆ Cheesemaking certification may be required ◆ Experience in dairy processing (i.e., fluid milk, dairy products) may be considered an asset ◆ Some High School education may be considered an asset |
| FS | <ul style="list-style-type: none"> ◆ Cheesemaking plant labourers ◆ Various titles given for specific duties performed on the line or throughout the process of handling and packaging including: cheesemaker helper, cheese cutter, cheese factory worker | <ul style="list-style-type: none"> ◆ No experience required ◆ Some high school education may be considered an asset ◆ Experience in dairy processing (i.e., fluid milk, dairy products) may be considered an asset |

cheesemaking career progression

SUPERVISORY/MANAGEMENT



EXECUTIVE LEADERSHIP SKILL LEVEL

10+ years of management experience food processing sector, ability to plan strategically, create vision for organization
Titles include: Director of Operations, VP



MANAGEMENT SKILL LEVEL

5+ years of experience in the cheesemaking industry and on the line, ability to manage people , processes and budgets
Titles include: Cheesemaking Manager, Production Manager



SUPERVISORY SKILL LEVEL

3-5 years of experience in cheesemaking industry and on the line, ability to manage people
Titles include: Cheesemaking Supervisor, Production Supervisor; Food product grader supervisor

FRONTLINE CHEESEMAKING



HIGH SKILL LEVEL

Minimum of 1 year of experience in cheesemaking industry and on the line
Titles include: Head Cheesemaker, Cheesemaking lead hand; Cheese Grader; Quality Control Checker; Moisture Content Tester



SEMI SKILL LEVEL

Experience as cheesemaking/dairy plant labourer may be required
Titles include: Cheesemaker; Cheesemaking Plant Workers and Machine Operators; can be many job titles, which are determined by the division of tasks and products within a facility



FOUNDATIONAL SKILL LEVEL

No experience, have language skills
Titles include: Cheesemaker Helper; Cheesemaking Labourers; can be various job titles given for specific duties performed on a line of throughout process of receiving through to packaging and storage.

MAY MOVE FROM HERE TO QA/QC

MAY MOVE HERE FROM DAIRY PROCESSING WORKER/HELPER

Key Findings

Our research helped to identify key issues and challenges that are unique to cheesemaking:

Commonalities between Dairy Processing and Cheesemaking

Because cheesemaking requires fluid milk, many facilities produce a range of dairy products, in addition to cheese. As a result, Foundational Workers may begin their careers as general labourers/helpers within processing facilities and after gaining experience, progress upwards in dairy product production (inclusive of yogurt, ice cream, fermented products) or cheesemaking.

Higher Skill Levels Require More Specialized Education

As within dairy processing operations, workers who progress into Higher Skilled positions may move into Quality Control roles, playing a role in grading and inspecting cheese products. Workers in quality control related positions are often required to attain HACCP certification and additional training on quality evaluation and assessment techniques for cheese.

Cheesemaker Certification

Occupational areas such as *Head Cheesemaker* or *Master Cheesemaker* may require certification from a post-secondary training institution or professional association. Various professional designations and programs exist within Canada and the United States. Based on secondary research, it appears that many large-scale cheesemaking facilities consider these educational programs and certifications to be assets, rather than mandatory for practice.

Certification programs and course offerings within North America include:

CANADA

- ◆ **Post-Secondary Education Certificate Programs:**
 - ◆ George Brown College: Professional Fromager Certificate
 - ◆ Conestoga College: Professional Cheese Making Certificate Program
 - ◆ University of Guelph: Cheese Making Technology Short Course
- ◆ **Stand-Alone Courses:**
 - ◆ Cheese Education Guild: Cheese Appreciation Level 1 and Level 2
 - ◆ Cheese Expertise Centre (Quebec): Various short courses
 - ◆ The Black Sheep School of Cheesemaking (BC): 5-day workshop

UNITED STATES

- ◆ **Professional Designations:**
 - ◆ American Cheese Society (ACS):
 - ◆ ACS Certified Cheese Professional®
 - ◆ ACS – Certified Cheese Sensory Evaluator®
- ◆ **Apprenticeship Program:**
 - ◆ Wisconsin Master Cheesemaker® Program:
 - ◆ Affiliated with the University of Wisconsin
- ◆ **Certificate Programs:**
 - ◆ University of Vermont: Art and Science of Small-Batch Cheesemaking Professional Certificate
 - ◆ Cornell University: Dairy Extension Program – Certificate Program: The Science of Cheese Making (Basic and Advanced)
 - ◆ Penn State: The Science and Art of Cheese Making Short Course

Automation

The level of automation within a cheesemaking facility has a direct impact on the skill-level and cross-training of cheesemakers. Research indicates that machinery and equipment used for various steps of dairy processing and cheesemaking often require the same skills for operation, including: programming and equipment interface; reading settings and output data; monitoring machine operation; and troubleshooting minor issues. In plants where automated equipment is used for most steps and processes, operators may be moved from station to station depending on need and production targets.

Operations and processes that are more manual (less automated equipment) is referred to as 'artisanal cheesemaking.' Artisanal cheesemaking operations are typically smaller operations; therefore, it is

not uncommon for workers in small plants to specialize in a certain area, product, or process. It is also common for skilled workers within artisanal cheesemaking operations to have completed extensive training and certification (as mentioned above).

From Helper to Cheesemaker

New employees, with limited or no experience in cheesemaking or food processing, are typically assigned to helper or labourer positions, providing support and assistance to cheesemakers or working on the packaging line. New employees are often assigned to product packaging and/or mastering positions, and then are introduced to various aspects of processing under the guidance of experienced workers. Helpers/labourers can expect to move into Cheesemaking positions once they have received on-the-job training and are most-often partnered with an experienced cheesemaker before performing any aspects of the process independently.

Milk Pasteurizer – Higher Skilled Operators

While Milk Pasteurizer and Raw Milk Receiver are classified under the *NOC Code 94140 – Process control and machine operators, food and beverage processing*, research indicates that the Pasteurizer Operator are more high-skilled Operator positions that require additional experience and expertise to perform. Pasteurizer Operators require acute document use and numeracy skills; are required to communicate and collaborate with on-site inspectors; require enhanced thinking skills and perform more high-risk, critical operations in relation to HACCP and food safety. Pasteurization is an important aspect of dairy processing to ensure a fluid milk supply for cheesemaking. In facilities that only produce cheese, fluid milk may be pasteurized off-site.



appendix a

CHEESEMAKING

| LEVEL/NOC | TITLES | DESCRIPTION/DUTIES | EXPERIENCE/ EDUCATION |
|---|--|--|--|
| <p>Executive Leadership Skill Level</p> <p>NOC 90010 - Manufacturing Manager</p> | <ul style="list-style-type: none"> ◆ Director of Operations ◆ VP of Operations/ Production | <ul style="list-style-type: none"> ◆ Strategic planning/contributing to strategic planning for the organization ◆ Identify opportunities to eliminate waste, add value, maximize yield and develop solutions by initiating team-based studies and trials related to process improvement ◆ Develop and implement continuous improvement strategies in the organization ◆ Set and monitor budgets ◆ Oversee quality control, inventory management, and finished product warehousing and transfers ◆ Lead, motivate and coach all employees to drive performance ◆ Identify and implement capital projects/physical facility improvements such as technology upgrades ◆ Track and ensure that regulation changes are implemented throughout the organization | <ul style="list-style-type: none"> ◆ 7-10+ years of experience in the dairy processing/cheesemaking industry ◆ Leadership experience |
| <p>Management Skill Level</p> <p>NOC 90010 Manufacturing Manager</p> | | <ul style="list-style-type: none"> ◆ Provide leadership and direction to the plant ◆ Plan, organize, direct, control and evaluate the operations of the cheesemaking facility ◆ Direct quality control inspection system and develop production reporting procedures ◆ Plan and manage production budget ◆ Collect and report plant data related to production and performance ◆ Ensure customer satisfaction by verifying production targets and shipping schedules are met ◆ Develop production schedules and maintain inventory of raw materials and finished products ◆ Ensure all SOPs are developed, used and maintained ◆ Develop and implement plans to efficiently use materials, labour and equipment to meet production targets ◆ Ensure compliance with all regulatory requirements and guidelines ◆ Assist in addressing and resolving customer complaints related to product quality ◆ Lead and manage employees ◆ Collaborate with other organization department to meet corporate goals | <ul style="list-style-type: none"> ◆ 5+ years of experience in dairy processing/cheesemaking ◆ Leadership experience ◆ Post-secondary degree/diploma is asset |

appendix a

CHEESEMAKING

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| <p>Supervisory Skill Level</p> <p>NOC 92012 – Supervisors, food and beverage processing</p> | <ul style="list-style-type: none"> ◆ Cheesemaking supervisor ◆ Production supervisor ◆ Food product grader supervisor | <ul style="list-style-type: none"> ◆ Supervise, co-ordinate and schedule the activities of workers who process, package, test and grade cheese products ◆ Establish methods to meet work schedules and co-ordinate work activities with other departments ◆ Resolve work problems and recommend measures to improve productivity and product quality ◆ Requisition materials and supplies ◆ Train staff in job duties, safety procedures and company policy ◆ Recommend personnel actions such as hiring and promotion ◆ Prepare production and other reports | <ul style="list-style-type: none"> ◆ 3-5 years of experience in the dairy processing/cheesemaking industry ◆ High School Diploma is an asset |
| <p>High Skill Level</p> <p>NOC 92012 – Supervisors, food, and beverage processing</p> | <p><i>Sample Titles:</i></p> <ul style="list-style-type: none"> ◆ Head cheesemaker ◆ Cheesemaking lead hand | <ul style="list-style-type: none"> ◆ Provide direct supervision on the line to cheesemaking facility workers/machine operators and labourers ◆ Provide guidance and direction to cheesemaking facility workers/machine operators and labourers ◆ Ensure safety and efficiency of cheesemaking facility workers/machine operators and labourers | <ul style="list-style-type: none"> ◆ Minimum of 1 year of experience in dairy processing/cheesemaking ◆ High School Diploma is an asset |
| <p>NOC 94143 – Testers and graders, food and beverage processing</p> | <p><i>Sample Titles:</i></p> <ul style="list-style-type: none"> ◆ Cheese grader ◆ Moisture content tester – dairy products ◆ Quality control checker – food and beverage processing | <ul style="list-style-type: none"> ◆ Take samples of products at various stages of processing ◆ Examine ingredients or finished products by sight, touch, taste and smell or weigh materials to ensure conformance to company standards ◆ Conduct routine tests for product specifications such as colour, alcohol content, carbonation, moisture content, temperature, fat content and packaging ◆ Grade or sort raw materials or finished products ◆ Ensure hygiene and sanitation practices conform to policies and regulations ◆ Advise supervisors of ingredient or product deficiencies. | <ul style="list-style-type: none"> ◆ Minimum of 1 year of experience as a Cheesemaking Plant Worker and/or Machine Operator ◆ Training in quality control processes and testing most often provided in-house |

| | | | |
|---|---|---|---|
| <p>Semi Skill Level</p> <p>NOC 94140 – Process control and machine operators, food and beverage processing</p> | <p>Cheesemaking Plant Workers and Machine Operators</p> <p><i>Sample Titles:</i></p> <ul style="list-style-type: none"> ◆ Cheese blender ◆ Cheese cooker ◆ Cheese grater ◆ Cheesemaker ◆ Cottage cheesemaker ◆ Cream cheesemaker ◆ Grated cheesemaker ◆ Sliced cheesemaker | <ul style="list-style-type: none"> ◆ Operate multi-function process control machinery through control panels, computer terminals or other control systems ◆ Observe gauges, computer printouts and video monitors to verify specified processing conditions and make adjustments to process variables such as cooking times, ingredient inputs, flow rates and temperature settings ◆ Maintain shift log of production and other data | <ul style="list-style-type: none"> ◆ Experience as a Cheesemaking Labourer may be required ◆ Some High School may be required |
| <p>Foundational Skill Level</p> <p>NOC 95106 – Labourers in food and beverage processing</p> | <p>Cheesemaking Labourers</p> <p><i>Sample Titles:</i></p> <ul style="list-style-type: none"> ◆ Cheesemaker helper ◆ Cheese cutter ◆ Cheese factory worker | <ul style="list-style-type: none"> ◆ Transport raw materials, finished products and packaging materials throughout facility manually or with powered equipment ◆ Measure and dump ingredients into hoppers of mixing and grinding machines or mobile tank trucks ◆ Feed and unload ingredients and raw materials into processing machines ◆ Remove filled containers from conveyors and manually pack goods into bags, boxes or other containers ◆ Clean work areas and equipment ◆ Check products and packaging for basic quality defects ◆ Assist cheese plant workers and machine operators in performing their duties. | <ul style="list-style-type: none"> ◆ No experience required ◆ Some High School may be considered an asset |



Food Processing Skills Canada (FPSC)

3030 Conroy Road, Suite 201, Ottawa, Ontario K1G 6C2 Phone: 613.237.7988 Toll Free: 1.877.963.7472
www.fpssc-ctac.com