



Taking the Pathway

Understanding
career direction in
beverage processing





Food Processing Skills Canada

At Food Processing Skills Canada, our mission is to make certain that the Canadian food and beverage manufacturing sector is building an empowered and resilient workforce that is primed for growth.

We create industry-driven programs for Canada's 13,000+ food and beverage manufacturing establishments and the sector's 300,000+ people so that businesses and individuals can achieve their goals.

We are passionate about ensuring that Canadians, new immigrants, and temporary foreign workers have the training and confidence to successfully begin an exciting job or advance their career. We also want employers and educators to have the right resources so that they can nurture talent and create the perfect learning environment.

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The opinions and interpretations in this publication are those of the author and do not necessarily reflect those of the Government of Canada.

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About Taking the Pathway

Canada's Agri-Food sector is a significant contributor to 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.

How to Use the Career Pathway

This document provides practical information about the career paths available for workers involved in the beverage processing industry. 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 options as beverage processors. The career pathway is a helpful tool for employers to attract, recruit and retain productive and skilled workers.

The career pathway for Beverage Processors illustrates the progression from foundational to management positions. Definitions for these occupational levels can be found in **Appendix A**.

A Snapshot of the Beverage Industry

The beverage industry manufactures a range of drinks and ready-to-drink products that can include bottled water, soft drinks, energy drinks, iced tea and brewed coffee, electrolyte drinks and vitamin water, nutritional beverages, and alcohol. Typically, the industry is divided into two main categories:

Alcoholic beverage industry

Non-alcoholic beverage industry

For the purposes of this Career Pathway, we will be focusing on the non-alcoholic beverage processing industry – this includes soft drinks, vitamin water, electrolyte drinks, fruit drinks and bottled water.¹



Are you Thirsty Yet?

I don't know about you, but all of this talk about beverages has made me thirsty! Grab a glass of your favourite beverage and watch this video about soft drink manufacturing: https://www.youtube.com/watch?v=h1bdwwE_2II&t=49s&ab_channel=HowIt%27sMade



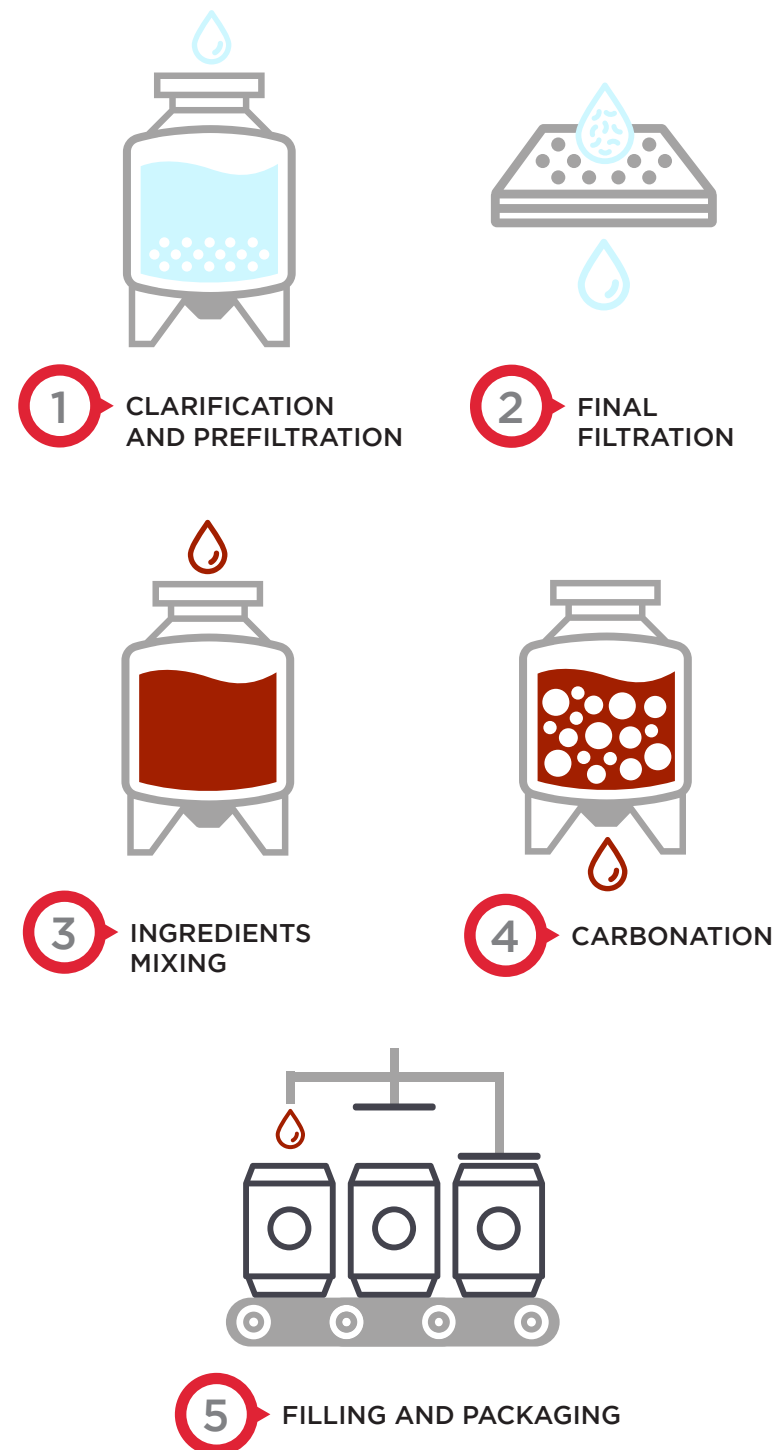
¹ Fluid Handling Pro - Beverage Industry: <https://fluidhandlingpro.com/beverage-industry/>

the many steps in beverage production

Hygiene is Key

Food safety is critical for all aspects of the food processing industry, but especially important in beverage processing. Each processing step involves procedures to ensure the safety and quality of all raw ingredients and equipment. Safe water is critical for all beverages – so cleaning and sanitization is of paramount importance. Some of the quality control related activities conducted during beverage processing include:

- **Testing all raw materials before mixing them with other ingredients.**
- **Monitoring the quality of the water during all steps of the process.**
- **Disinfecting and monitoring tanks and pumps.**
- **Monitoring sugar levels and quality. If the correct sugar is not selected for the beverage, it can create residue and spoil the final product.**
- **Conducting hygiene checks.**
- **Conducting Good Manufacturing Practices (GMP) checks.**



There are many different beverages that can be made in a facility – from sparkling water to soft drinks – but they all follow a similar process from raw material to finished product.

CLARIFICATION AND PREFILTRATION

Clean water makes clean beverages. Dirt, bacteria, and impurities in the water can negatively impact the taste of the final beverage and also reduce shelf-life. Water impurities are removed through a range of processes that can include coagulation, filtration, and chlorination.

FINAL FILTRATION

During final filtration, the water is poured through a sand filter to remove any remaining impurities. The water is then disinfected with small amounts of chlorine to remove any remaining bacteria and organic compounds that impact the colour or taste of the water. After the chlorination process is complete, the chlorinated water is passed through an activated carbon filter to remove the chlorine and residual organic matter from the water. After the final filtration process 99 to 100% of unwanted microbial content is removed – crystal clear perfection!

INGREDIENTS MIXING

Depending upon the beverage being made, flavouring components, colours and flavour modifiers are dissolved into the filtered water. Flavouring syrups (like those used to flavour soft drinks) are filtered to remove impurities before they are added to the filtered water. Syrups may also be sterilized through UV radiation or rapid pasteurization. Fruit syrups must be pasteurized before use. The physical impurities that may appear in the sugar and other raw materials can also be removed. Every ingredient is added to the tanks in batches and is carefully mixed.

CARBONATION

Some drinks are carbonated (bubbly!). The gases that are used in carbonation – particularly carbon dioxide (CO₂) – must be free from particles and microorganisms to preserve product quality and shelf life. Contaminated air threatens product quality and reduces its shelf life. All gases used for carbonation and all other processes must be free from particles and microorganisms.

FILLING AND PACKAGING

The liquids are then filled into their respective containers – like bottles and cans – at a high-flow rate. Once filled, the containers are immediately sealed with pressure caps made of tin or steel. Bottles then receive their labels and are master packaged.²



Check out this video of the filling machine at a Coca-Cola Plant: https://www.youtube.com/watch?v=9Eq4C9ch-vk&ab_channel=EpicMachines



² Beverage Tan Do – Beverage Production: Amazing Secrets not everybody knows: <https://tandobeverage.com/beverage-production/>

career pathway for beverage processors

A common career pathway for Beverage Processors can include:

Beverage Processing Worker / Labourer

Beverage Processing Workers/Labourers perform material handling, clean-up, packaging and other elemental activities related to beverage processing. Cleaning and sanitization are very important in beverage processing and workers may be involved in bottle washing and equipment cleaning and sanitizing. They may tend liquid tanks, mix ingredients, and play a role on the packaging line – as a canning or bottling line worker or caser.

Skill Level: Foundational Skill (FS)

Educational Requirements: No prior experience or training required; high school diploma or equivalent may be required/preferred; training is provided on-the-job.

Related NOC Code: **NOC 95106**

– Labourers in food and beverage processing

Beverage Processing Machine Operator

Process control and machine operators in beverage processing operate multi-function process control machinery and single-function machines to process and package beverage products. Because there are a range of beverages that can be

manufactured, the machines and processes that these workers operate varies and can include (but are not limited to), carbonation equipment, pasteurizing equipment, sterilizing equipment, bottling machines, packaging machines and more. Machine operators require problem solving and technological skills to operate the equipment and troubleshoot issues on the line.

Skill Level: Semi Skill (SS)

Educational/Experience Requirements: Prior experience as a Beverage Processing Worker/Labourer may be required. (i.e., 1 year)

Related NOC Code: **NOC 94140**

– Process control and machine operators, food and beverage processing

Beverage Processing Testers and Graders (Production Line)*

Testers and graders, true to their titles, test and grade ingredients and finished beverage products to ensure conformance to company standards. This is a production line position and is sometimes referred to as a Quality Control Lead, Quality Inspector (Production) or Quality Control Lead Hand. This position is typically held by an experienced Machine Operator who has additional skills and knowledge regarding quality standards, testing procedures

and Good Manufacturing Practices (GMP). Testers and graders may test raw ingredients throughout the process, packaging materials, and the final beverage products.

Skill Level: High Skill (HS)

Educational/Experience Requirements:

Experience as a Machine Operator is required; additional training in quality control testing and grading procedures and Good Manufacturing Practices (GMP) is required and typically provided by the employer.

Related NOC Code: **NOC 94140**

– Process control and machine operators, food and beverage processing

*Production line tester and grader is an entry-level Quality Control/Assurance position that is still part of the frontline, production department. Job incumbents who develop a keen interest in, and aptitude for, quality assurance may move from production into the QA/QC department. Further training in QA is required for job progression within the QC/QA department.

Beverage Processing Supervisor

Supervisors in beverage processing supervise and coordinate the activities of workers who operate beverage processing and packaging machines, and production line graders and testers. They have a keen knowledge of all of the steps involved in beverage processing and can provide suggestions for improvements and solve problems that occur on the production line. In addition to their technical knowledge, they use human resources

management skills to supervise and guide production workers. They may be required to make personnel decisions, including promotions, disciplinary action, and terminations.

Skill Level: Supervisory Skill Level (S)

Educational/Experience Requirements:

Experience as a Machine Operator is required (2-5 years); additional training in human resource management and supervisory skills is an asset and may be required.

Related NOC Code: **NOC 94140**

– Process control and machine operators, food and beverage processing

Beverage Processing Manager

Manufacturing managers plan, organize, direct, control and evaluate the operations of a beverage processing facility under the direction of a general manager or other senior manager. They often work closely with executive leadership to make strategic decisions regarding the beverages being produced in their facilities. They have strong technical knowledge, coupled with business management skills and knowledge.

Skill Level: Management Skill Level (M)

Educational/Experience Requirements:

Minimum 5-7 years experience as a Beverage Processing Supervisor often precedes the promotion to Beverage Processing Manager. Additional training in management and business operations is a strong asset.

Related NOC Code: **NOC 90010**

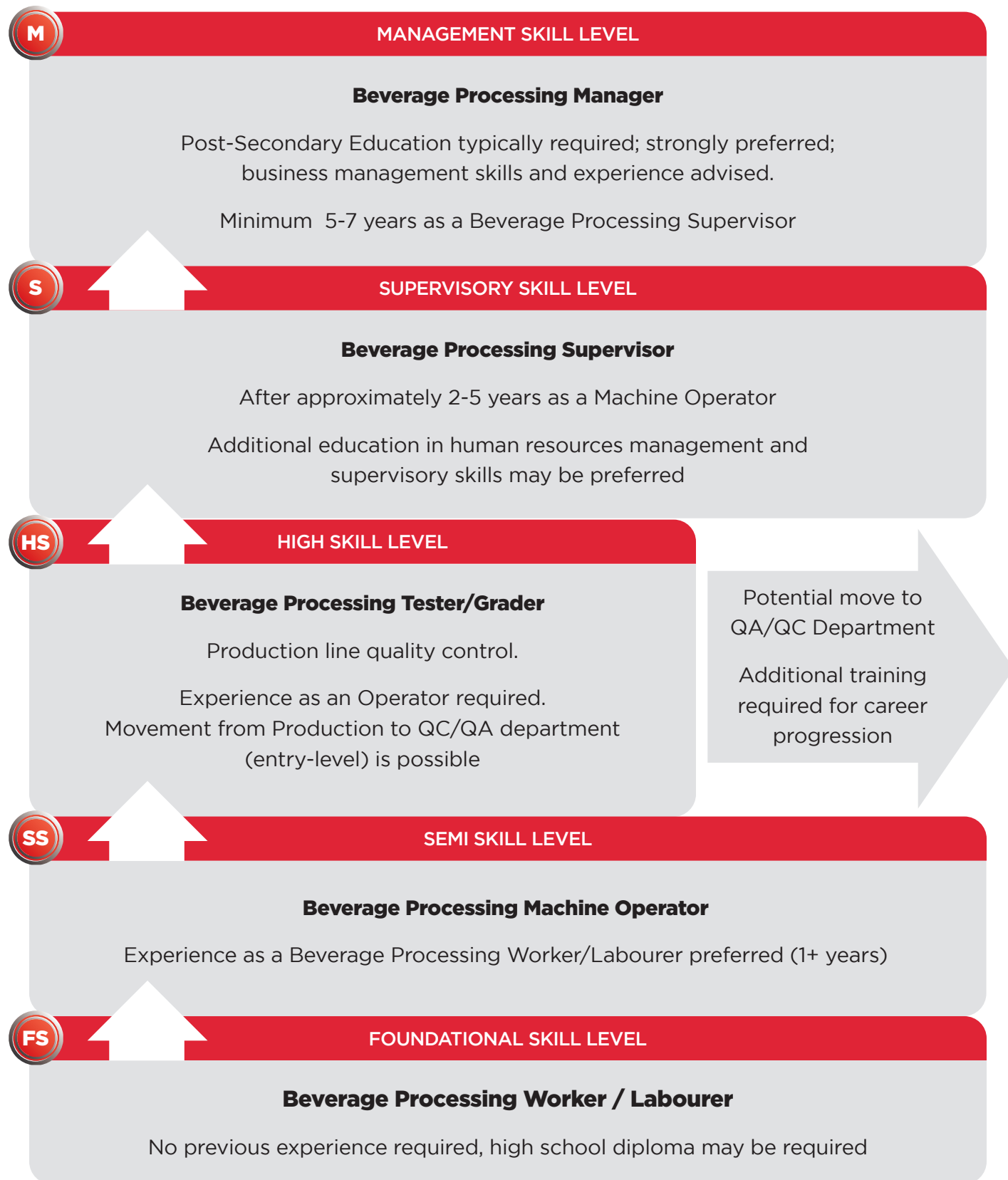
– Manufacturing managers

beverage processor

POSITIONS/CAREER PATHWAY

appendix a

OCCUPATIONAL LEVELS
WITHIN THE CAREER PATHWAY



<p>Foundational Skill Level</p> <p>FS</p>	<p>Foundational Skill Level positions are often the entry-level positions or those jobs that require no prior experience or training to work in the specific industry or sub-sector. 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.</p>
<p>Semi Skill Level</p> <p>SS</p>	<p>Semi Skill Level workers typically have 6 months - 1 year of experience working in foundational skill level positions within their facility. 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.</p>
<p>High Skill Level</p> <p>HS</p>	<p>High Skill Level Workers typically have at least 1 year of experience (typically 1-3 years) in their respective sub-sector and have often performed a range of tasks that are completed on the production. Depending upon the sub-sector, formal education may be required to transition from semi skill to high skill level positions. In general, a high school diploma is the minimum educational requirement for advancement into high skill level positions. 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.</p>
<p>Supervisory Skill Level</p> <p>SS</p>	<p>Supervisory Skill Level workers typically have 2-3 years of experience in high skill level positions within their respective sub-sector. 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 a minimum requirement; additional post-secondary education is often required or considered a strong asset (sub-sector dependent). In some sub-sectors (e.g., industrial baking, fish and seafood processing), 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.</p>
<p>Management Skill Level</p> <p>M</p>	<p>Management Skill Level workers typically have a minimum of 5 years of supervisory experience within their respective sub-sectors. 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. In general, Managers require WHMIS, food safety and food safety management system training.</p>



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