Alberta Food & Beverage Labour Market Study

Prepared for the Alberta Food Processors Association
Final Report
November 2023

This Labour Market Study (LMI) conducted by the Alberta Food Processors Association (AFPA) in collaboration with MNP and funded by EMC is intended solely to provide insights into the present landscape of the Alberta Food and Beverage Sector, including its federal and global dimensions. The findings and conclusions presented in this study are based on the information available at the time of publication and are subject to change.

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ALBERTA food processors association

EMC

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Acknowledgements

MNP would like to thank the individuals and organizations who generously shared their time and materials for this study.

Disclaimer

The views and opinions expressed in this report are those of its author(s) and not the official policy or position of the Alberta Food Processors Association.

The Province of Alberta is working in partnership with the Government of Canada to provide employment support programs and services.

Executive Summary

Background

The Alberta Food Processors Association (AFPA), a non-profit organization representing all segments of Alberta's food and beverage industry, in partnership with other industry leaders including the Excellence in Manufacturing Consortium (EMC), engaged MNP LLP (MNP) to conduct a labour market study for the food and beverage processing industry in Alberta and identify strategies for addressing identified gaps.

Methodology

The approach used to undertake the study encompassed the following steps:

- Developed a definition of the food and beverage processing industry.
- Conducted a literature review and environmental scan.
- Conducted an initial series of key informant interviews.
- Designed, tested and administered an online industry survey and conducted additional key informant interviews.
- Developed workforce profiles and estimates of supply and demand by occupation.
- Forecast supply and demand over a 10-year period.
- Identified a series of draft strategies.
- Conducted industry roundtables to validate the workforce estimates and draft strategies.
- Synthesize the findings of the study into a final report.

Defining the Food and Beverage Processing Industry

For the purposes of this study, the food and beverage processing industry has been defined to include the following nine sub-sectors:

- Animal food manufacturing;
- Grain and oilseed milling;
- Sugar and confectionery product manufacturing;
- Fruit and vegetable preserving and specialty food manufacturing;
- Dairy product manufacturing;
- Meat product manufacturing;
- Bakeries and tortilla manufacturing;
- Other food product manufacturing; and
- Specific sub-sectors of beverage product manufacturing, including soft drink and ice manufacturing, breweries, wineries, and distilleries.

Excluded from the scope was seafood product preparation and packaging, tobacco manufacturing, retail bakeries (as a subset of bakeries and tortilla manufacturing) and cannabis product manufacturing.

Key Findings

The key findings of the labour market research include:

- **The industry is comprised of a high proportion of small and medium sized businesses**. Most of the businesses in the industry are small or medium sized businesses (i.e., less than 50 employees). These businesses often have limited capacity and funding available to engage in research and development activities or with new technologies and automation. As a result, the adoption of technology in this industry has been slower than other industries.
- **Meat product manufacturing and bakeries and tortilla manufacturing are key sub-sectors in Alberta.** Meat processing facilities tend to be larger than other types of food processing businesses and account for of 40 percent of employment in the industry. Most of the businesses currently operating in the industry are engaged specifically in the bakeries and tortilla manufacturing, other food manufacturing, and breweries, wineries and distilleries sub-sectors.
- **Temporary foreign workers are an important component** of Alberta's food and beverage processing workforce. The number of temporary foreign workers in the industry declined during the pandemic but has since returned to pre-pandemic levels.
- **The most difficult positions to fill tend to be the technical specialists and skilled trades occupations**. These include truck drivers, meat cutters, maintenance technicians, and shipping/receiving personnel. Managers, supervisors and general labourers are also positions reported to be difficult to fill.
- **Over the next 10 years, there are projected shortages in key sub-sectors and occupations**. The largest projected workforce shortages are in the meat product manufacturing, bakeries and tortilla manufacturing and other food manufacturing sub-sectors, which is largely due to the high proportion of the workforce engaged in these sub-sectors. In terms of occupations, the largest projected shortages are for the general labour and skilled trades positions. Vacancies in general labour positions are due to this being the entry level for the industry and as older workers retire and remaining workers advance, openings will occur. In addition, there is anticipated to be growth in the sector.
- **Wages and salaries, benefit plans, and workplace culture were said to be the top factors influencing both recruitment and retention among respondents.** Of these factors, the one that is often overlooked in terms of improving recruitment and retention is creating a positive workplace culture.
- **Recruitment of youth is a particular challenge for the food and beverage processing industry.** Respondents highlighted this as an area which could use more time and effort dedicated to it.
- Respondents noted that **improvements to the post-secondary programming available in the province can only be made through consistent partnerships with industry.** Respondents also noted this is an area that could do with some targeted development in the province.
- In terms of skills, **digital upskilling and additional English language skills will be increasingly in demand given** the continued reliance on immigrant workers in the food and beverage processing industry, as well as the increasing availability of technology and automations.

Recommended Strategies

Recommended strategies and priority rankings are presented in Table A. The priority rankings are based on the number of votes received during the validation sessions; red represents the highest priority and yellow represents the lowest priority.

Table A. Recommended Strategies and Priority Ranking

Highest priority | Mid-level priority | Lowest priority

Theme	Priority Ranking	Strategy
Technology and Automation		Technology working group specific to small businesses which would: • Assess technology needs and identify technologies that could be used to address labour shortages; • Identify pilot projects with specific processors to implement technologies; and • Explore opportunities with Alberta Innovates and other like-minded organizations to support the technological advancement of the industry.
Central Resource Hubs		Develop a sustainable model for human resource hubs, provincially or regionally, that provide a concierge service to employers. This would include exploring opportunities to pilot the identified model and service offerings.
		Develop an all in one online supports tool that: • Guides employers to the recruitment and retention resources that are already available through all the other food processing or manufacturing associations across the country; and • Helps employers find each other to develop cooperative projects and initiatives as well as secure project funds and grants for upgrading.
Skill Development		Improve English language skills for workers through partnering with organizations such as post-secondary institutions, non-profit institutions, and private trainers.
Post-Secondary Institution Programming		Develop coordinated mechanism to deliver information on needs between industry and post-secondary institutions including identifying modification to post-secondary institution programming based on industry demand.
Recruitment and Retention		Develop reporting and communication with respect to equity, diversity and inclusion that supports the recruitment and retention of equity deserving groups.
		Support the recruitment and retention of youth.

1. Introduction

Background and Purpose

Alberta's food and beverage processing[1] industry is growing and full of opportunities. But where there is opportunity, there is a host of complex and interrelated issues to contend with, including workforce development. To ensure sustainable growth the industry needs to both address current workforce challenges as well as to prepare for its future.

The Alberta Food Processors Association (AFPA), a non-profit organization representing all segments of Alberta's food and beverage industry, in partnership with other industry leaders including the Excellence in Manufacturing Consortium (EMC), engaged MNP LLP (MNP) to conduct a labour market study for the food and beverage processing industry in Alberta. The purpose of the study was to provide a strategic framework to address concerns related to employment and diversity in the food and beverage processing industry.

Scope

The scope of the study encompassed:

- Evaluating the current state of the food and beverage processing industry in Alberta.
- Analyzing the current labour market and creating a workforce profile for the industry.
- Identifying key labour market trends.
- Conducting interviews and a survey with key stakeholders.
- Forecasting workforce demand and supply and identifying key gaps in the workforce.
- Identifying a series of strategies to address challenges.
- Validating findings in roundtable discussions with key stakeholders.
- Preparing a draft and final report.

[1] Please note that food and beverage processing has been used interchangeably with food and beverage manufacturing in this report.

Approach

In carrying out the study, MNP completed the following activities:

- Confirmed the project scope, industry definition and the list of priority occupations to be included in the study.
- Undertook a literature review to identify trends impacting the industry including existing information on the workforce, recruitment and retention, changing skill requirements, actions that are being taken related to workforce development and relevant economic development and recovery strategies from the Government of Alberta.
- Conducted contextual and key informant interviews with industry representatives.
- Developed, tested, and administered an online industry survey.
- Developed workforce profiles for the industry.
- Developed high-level demand and supply forecasts by sub-sector and occupational category over a 10-year period.
- Identified several potential recommendations and strategies to address challenges in the workforce.
- Conducted industry roundtables to validate the supply and demand findings and to gather feedback on the draft recommendations and strategies.
- Synthesized the findings of the research into draft and final reports.

Structure of the Report

The remainder of the report is structured as follows:

- Section 2 contains a description of the methodology used in conducting the study including data sources.
- Section 3 contains an overview of the industry in Alberta.
- Section 4 contains the labour market estimates, including key trends, workforce profiles, and forecast estimates.
- Section 5 contains a summary of the industry consultation conducted.
- Section 6 contains the recommended strategies and best practices, including information on timing, key actions, and resourcing for each.
- Appendices A through G provide supporting information on data sources, the approach used to develop the estimates and other key information.

Project Governance

The Steering Committee for this project included two EMC representatives, two representatives from AFPA, representatives from seven businesses engaged in various sub-sectors of Alberta's food and beverage processing industry and one industry association. Committee members were recruited by AFPA and provided input into the definition of the industry, as well as specific data sources and trends which were incorporated into this study. They were also invited to participate in the first round of interviews (i.e., the contextual key informant interviews) to gather preliminary information on factors affecting the current workforce and expectations about future supply and demand. Appendix E contains a list of committee members and their affiliation.

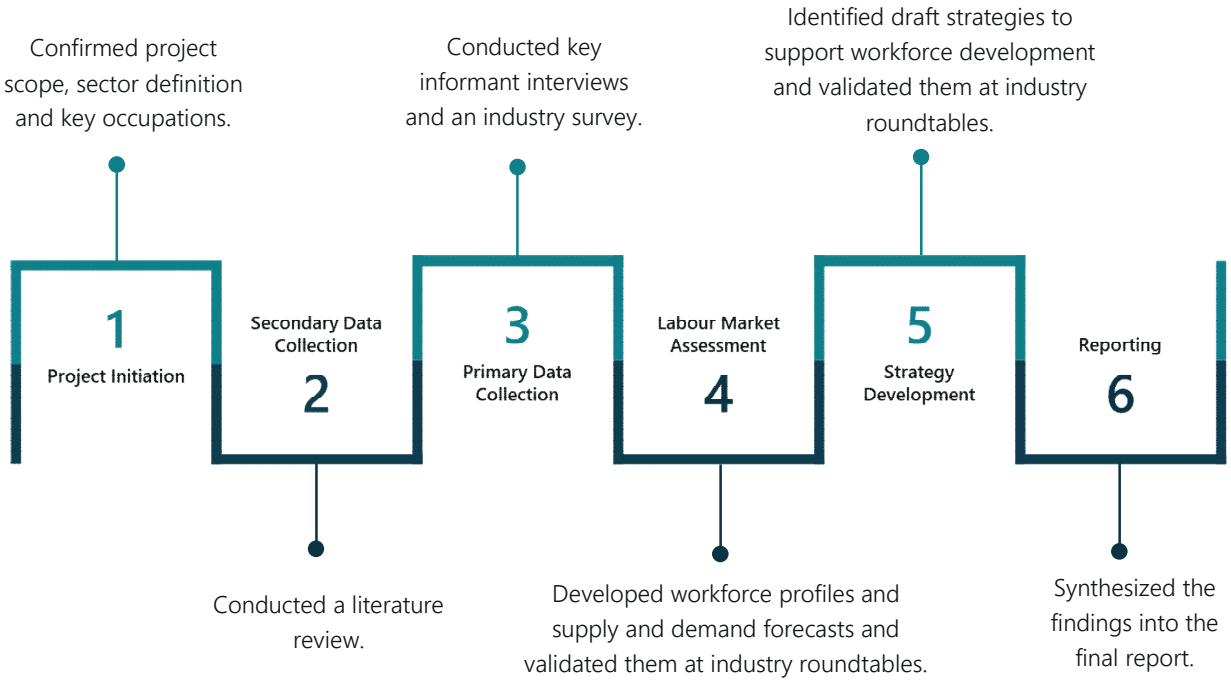
2. Methodology

Approach

MNP conducted this study between December 2022 and November 2023. Figure 1 outlines the approach used to undertake the study which encompassed the following steps:

- A definition of the food and beverage processing industry was developed by identifying its key activities and occupations. This was completed in collaboration with the Steering Committee.
- A literature review and environmental scan was conducted to gather information on the existing workforce.
- An initial series of key informant interviews were conducted with Steering Committee members to gather additional information on the key considerations, data sources, and trends in the industry.
- An online industry survey was designed, tested and administered and additional key informant interviews were conducted to validate initial findings and identify areas to prioritize.
- Workforce profiles and estimates of supply and demand by occupation were developed over a 10-year period based on the information gathered. Two industry roundtables were held to validate the draft estimates and gather feedback on them.
- Draft strategies to support workforce development were identified and these were also tested during the industry roundtable.
- The research findings were then synthesized in a report.

Figure 1. Approach to Conducting the Study



Data Sources

The data used in the study included both quantitative and qualitative information gathered from primary and secondary sources.

Primary Research

The primary research activities for this study included:

- **Contextual interviews with the Steering Committee.** Contextual interviews were conducted with Steering Committee members to gather preliminary information on factors affecting the current workforce and expectations about future supply and demand. A total of 12 interviews were conducted between March and April 2023.
- **An online industry survey.** The online industry survey was designed by MNP to collect information on the current state of the workforce as well as identify critical needs and areas to prioritize in developing the strategies. The survey was distributed by AFPA to food and beverage processing businesses across the province. A total of 51 organizations completed the survey between July and August 2023.
- **Key informant interviews with the industry representatives**. Key informant interviews were conducted to identify challenges and critical needs for workforce development. The distribution list was developed in conjunction with AFPA and included businesses currently operating in the food and beverage processing industry in Alberta, post-secondary institutions offering relevant programming in Alberta, and organizations that work with equity-deserving groups in Alberta. MNP sent 40 invitational emails to key informant interviewees. A total of 21 interviews were conducted between July and August 2023.
- **Validation sessions with industry representatives.** Two validation sessions were conducted with 27 industry and post-secondary institution representatives to review and validate the preliminary workforce forecasts and draft strategies. The sessions were conducted virtually using Microsoft Teams in October 2023. Mural, an online collaboration platform was used to elicit feedback from the groups. Communication materials and online registration tools were prepared and circulated by MNP in advance.

Appendix B provides details on the primary data collection tools.

Secondary Research

A high-level desk review of published information from government sources, research organizations and industry groups was conducted. Our review focused on the following themes in the context of the Alberta and Canadian food and beverage processing industry:

- Data on the existing workforce, including demographics and key characteristics;
- Trends impacting the industry;
- Challenges in recruitment and retention;
- Changing skill requirements;
- Workforce development and training; and
- Economic development and recovery strategies.

Table 1 provides a list of the specific data sources used during the secondary research portion of the study.

Table 1. Data Sources for Secondary Research

Source	Data
Statistics Canada	Workforce demographics Data on current wages
Industry Associations and Organizations (Food Processing Skills Canada, Standing Committee on Agriculture and Forestry, Excellence in Manufacturing Consortium)	Workforce demographics Employer characteristics Trends impacting the industry Recruitment and retention Changing skill requirements Workforce development and training
Agriculture and Agri-Food Canada Federal Agencies Provincial Agencies Food Processing Skills Canada	Economic development and recovery strategies

3. Overview of the Industry in Alberta

This section summarizes secondary research related to key industry activities and data on employer and workforce characteristics.

Industry Definition

The industry was defined to include the sub-sectors listed in Table 2. They are organized by their North American Industry Classification System (NAICS) code.

Table 2. Food and Beverage Processing Industry Sub-Sectors and Description

Sub-Sector	NAICS	Description
Animal food manufacturing	3111	Establishments primarily engaged in manufacturing food and feed for animals, including pets.
Grain and oilseed milling	3112	Establishments primarily engaged in milling grains and oilseeds, refining and blending fats and oils, and making breakfast cereal products.
Sugar and confectionery product manufacturing	3113	Establishments primarily engaged in manufacturing sugar and confectionery products, including chocolate, candy, and granola bars.
Fruit and vegetable preserving and specialty food manufacturing	3114	Establishments primarily engaged in manufacturing frozen fruits and vegetables, frozen entrees and side dishes of several ingredients, and fruits and vegetables preserved by pickling, canning and similar processes.
Dairy product manufacturing	3115	Establishments primarily engaged in manufacturing dairy products, such as milk, butter, cheese, ice cream, and frozen dessert manufacturing.
Meat product manufacturing	3116	Establishments primarily engaged in manufacturing meat products, including animal slaughtering and processing.
Bakeries and tortilla manufacturing		
Commercial bakeries and frozen bakery product manufacturing	311814	Establishments primarily engaged in manufacturing bakery products, other than for retail sale.
Cookie, cracker and pasta manufacturing	31182	Establishments primarily engaged in manufacturing cookies and crackers as well as preparing flour mixes and manufacturing dry pasta.
Tortilla manufacturing	31183	Establishments primarily engaged in manufacturing tortillas.
Other food product manufacturing	3119	Establishments primarily engaged in manufacturing food which are not classified to any other industry group, including snack food, coffee and tea, flavouring syrup, seasoning and dressing.
Beverage product manufacturing*	3121	Establishments primarily engaged in manufacturing beverages, including soft drink manufacturing, breweries, wineries and distilleries.

Source: Statistics Canada, North American Industry Classification System (NAICS) Canada 2012

The sub-sectors that were excluded for this study that are included in Statistics Canada's definition of food and beverage processing are:

- 3117 - Seafood product preparation and packaging
- 3122 - Tobacco manufacturing
- 311814 - Retail bakeries (as a subset of bakeries and tortilla manufacturing)
- 3123 - Cannabis product manufacturing

Employers

As of June 2022, there were approximately 1,249 food and beverage processing businesses in Alberta, which is approximately 10 percent of the Canadian total. Table 3 provides the distribution of food and beverage establishments by size for both Alberta and Canada. Approximately 40 percent of the businesses in the province don't have employees and very few businesses (less than 1 percent) have more than 500 employees. Compared to Canada, Alberta has a higher proportion of businesses without employees.

Table 3. Distribution of Food and Beverage Manufacturing Businesses in Alberta by Size, June 2022

Employer Size	Number	Proportion in Alberta	Proportion in Canada
Without employees	510	41%	38%
1 to 4 employees	198	16%	17%
5 to 9 employees	159	13%	14%
10 to 19 employees	169	14%	12%
20 to 49 employees	115	9%	11%
50 to 99 employees	47	4%	4%
100 to 199 employees	24	2%	2%
200 to 499 employees	22	2%	2%
500 plus employees	5	<1%	<1%
Total	**1,249**	**100%**	**100%**

Sources: Statistics Canada, Canadian business counts, with and without employees, June 2022. Table 33-10-0568 and 33-10-0569. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3310056801 and https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3310056901
Notes: Data for seafood product preparation and packaging, tobacco product manufacturing, and cannabis product manufacturing have been excluded as these sub-sectors are not within scope.

Of the 1,249 businesses engaged in food and beverage processing in Alberta, approximately 26 percent are engaged in bakeries and tortilla manufacturing, 23 percent are engaged in other food manufacturing, 17 percent are breweries, wineries and distilleries, and 12 percent in meat product manufacturing. Table 4 provides the number of employers by sub-sector in Alberta. There are a higher proportion of small businesses operating in the other food product manufacturing and soft drink and ice manufacturing sub-sectors, and a higher proportion of large businesses operating in the fruit and vegetable preserving and specialty food and dairy product manufacturing sub-sectors.

Table 4. Number of Employers in Food and Beverage Manufacturing in Alberta by Sub-Sector, 2022

Food and Beverage Manufacturing Sub-Sector	Number	Proportion
Bakeries and tortilla manufacturing	326	26%
Other food manufacturing	286	23%
Breweries, wineries and distilleries	214	17%
Meat product manufacturing	147	12%
Animal food manufacturing	85	7%
Fruit and vegetable preserving and specialty food manufacturing	56	4%
Dairy product manufacturing	44	4%
Soft drink and ice manufacturing	34	3%
Grain and oilseed milling	34	3%
Sugar and confectionery product manufacturing	23	2%
Total	**1,249**	**100%**

Sources: Statistics Canada, Canadian business counts, with and without employees, June 2022. Table 33-10-0568 and 33-10-0569. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3310056801 and https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3310056901
Notes: Data for seafood product preparation and packaging and cannabis product manufacturing have been excluded as these sub-sectors are not within scope. Values have been rounded for presentation purposes.

Total revenue from the food and beverage processing industry in Alberta in 2021 amounted to just over $20 billion. Approximately 50 percent of this was from the meat manufacturing industry, and a further 23 percent from grain and oilseed milling. Total revenue by sub-sector is provided in Table 5.

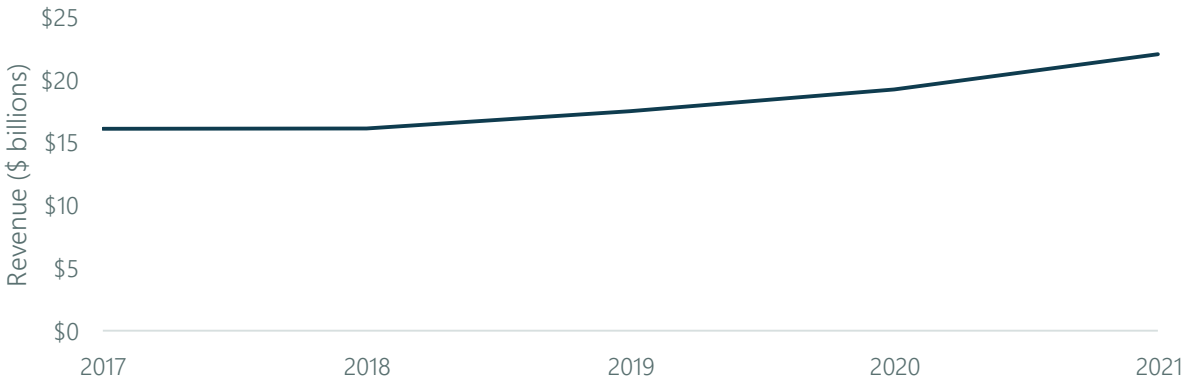
Table 5. Total Revenue in Food and Beverage Manufacturing in Alberta by Sub-Sector, 2021

Food and Beverage Manufacturing Sub-Sector	Revenue ($ millions)	Proportion
Meat product manufacturing	$10,200	50%
Grain and oilseed milling	$4,600	23%
Animal food manufacturing	$1,400	7%
Other food manufacturing	$1,000	5%
Breweries, wineries and distilleries	$1,000	5%
Soft drink and ice manufacturing	$700	4%
Fruit and vegetable preserving and specialty food manufacturing	$700	3%
Bakeries and tortilla manufacturing	$600	3%
Dairy product manufacturing	Not available	Not available
Sugar and confectionery product manufacturing	Not available	Not available
Total	**$20,200**	**100%**

Source: Statistics Canada, Principal statistics for manufacturing industries by NAICS, Table 16-10-0117-01. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1610011701
Note: Values have been rounded for presentation purposes.

Revenue from the food and beverage manufacturing industry in Alberta has been steadily increasing since 2018. Annual growth was approximately nine percent through 2020 before increasing by approximately 15 percent in 2021. Figure 2 provides total revenue for the food and beverage manufacturing industry in Alberta from 2017 to 2021.

Figure 2. Total Revenue, Food and Beverage Manufacturing, Alberta, 2017 to 2021



Source: Statistics Canada, Principal statistics for manufacturing industries by NAICS, Table 16-10-0117-01. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1610011701

Workforce

Table 6 provides the number of employees by sub-sector in Alberta. Almost half of the approximately 31,370 food and beverage processing employees are employed in meat product manufacturing. A further 12 percent are employed in other food manufacturing (i.e., coffee and tea, snack food, condiments), and 11 percent in bakeries and tortilla manufacturing. In terms of employers, 26 percent are bakeries and tortilla manufacturers, 23 percent are other food manufacturers, and 17 percent are breweries, wineries and distilleries.

Table 6. Number of Employees in Food and Beverage Manufacturing in Alberta by Sub-Sector, 2022

Food and Beverage Manufacturing Sub-Sector	Number	Proportion
Meat product manufacturing	13,080	42%
Other food manufacturing	3,860	12%
Bakeries and tortilla manufacturing	3,450	11%
Soft drink and ice manufacturing	2,750	9%
Breweries, wineries and distilleries	2,310	7%
Dairy product manufacturing	1,770	6%
Fruit and vegetable preserving and specialty food manufacturing	1,650	5%
Animal food manufacturing	1,180	4%
Grain and oilseed milling	860	3%
Sugar and confectionery product manufacturing	460	1%
Total	**31,370**	**100%**

Sources: Statistics Canada, Labour productivity, annual, 2022. Table 36-10-0480-01. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3610048001
Notes: Data for seafood product preparation and packaging and cannabis product manufacturing have been excluded as these sub-sectors are not within scope. Values have been rounded for presentation purposes.

The occupations employed in the food and beverage processing industry are diverse and include professionals, management, technicians, technologists, administrators, engineers, mechanics, and general labourers. For the purposes of this analysis, we have grouped the occupations into the six main categories shown in Table 7. Further details on the composition of each category are outlined in Appendix C. The majority of the workforce is employed as general labourers and skilled trades.

Table 7. Alberta's Food and Beverage Processing Industry Occupational Categories and Description

Occupation	Brief Description	Skill Requirements	Potential Training
Management	Includes management in manufacturing, purchasing, quality assurance, facility operation	Business marketing, quality control, business analysis, food product management, supply chain management, food safety, occupational health and safety	Diploma or degree in culinary arts and management, food science and technology, food and agribusiness management, business administration
Supervisor and inspector	Includes supervisors, testers, graders	Business marketing, quality control, business analysis, food product management, supply chain management, food safety, occupational health and safety	Diploma or degree in culinary arts and management, food science and technology, food and agribusiness management
Sales and administration	Includes human resource, sales, accounting, payroll, general office support, purchasing	Human resources, accounting, finance, risk management	Diploma or degree in culinary arts and management, finance and accounting, business administration
Technical specialist	Includes biologists, engineers, technologists, technicians, chemists	Quality control, food product development, machinery operation and programming	Diploma or degree in culinary arts and management, food science and technology, chemistry, programming or relevant technical training.
Skilled trades	Includes bakers, boilermakers, millwrights, mechanics, electricians, welders	Food preparation, mechanical	Diploma or degree in culinary arts and management, food science and technology Apprenticeship programs
General labour	Includes butchers, material handlers, machine operators, transport truck drivers, brewers, distillers	Filling and packaging, equipment adjustment, sanitation, occupational health and safety	On-the-job training, industry specific certifications (e.g., occupational health and safety, meat cutting), apprenticeship programs.

Source: Food Processing Skills Canada (FPSC). 2021. At the Crossroad to Greatness: Key Insights & Labour Market Research About Canada's Food and Beverage Processing Industry. Accessed at https://fpsc-ctac.com/wp-content/uploads/2021/04/LMI-Overall-Report_FPSC_04_29_21.pdf

Key Findings

- **Most of the businesses engaged in Alberta's food and beverage processing industry are small or medium sized businesses** (i.e., less than 50 employees). Most of the businesses currently operating in the industry are engaged in the bakeries and tortilla manufacturing, other food manufacturing, and breweries, wineries and distilleries sub-sectors.
- **Revenue from the food and beverage processing industry in Alberta has been steadily increasing since 2018.** The sub-sectors with the highest revenue in 2021 were meat product manufacturing and grain and oilseed milling.
- **Almost half of Alberta's food and beverage processing workforce is employed in meat product manufacturing.** Other food manufacturing, and bakeries and tortilla manufacturing are the next largest sub-sectors in terms of employment.

4. Labour Market Estimates

This section of the report presents findings in relation to general workforce trends in Alberta, workforce profiles, and the forecasts of workforce supply and demand.

Workforce Trends

Some of the key trends influencing the food and beverage processing industry include:

- **Ongoing labour shortages**. Across Canada, labour shortages have been a problem since before the pandemic.[2] The food and beverage processing industry has been experiencing challenges in labour availability (i.e., lack of qualified applicants), especially for certain sub-sectors and occupations.[3] In Alberta, labour shortages are most acute in meat product manufacturing and general labour positions.
- **Declining proportion of the workforce composed of youth or mature workers**. In Alberta, the proportion of workers aged 15 to 24 (i.e., youth workers) and aged 55 and over (i.e., mature workers) in the workforce has been declining since roughly 2016[4]. At the same time as the demographic composition of the workforce has been changing the food and beverage processing industry in Canada is experiencing difficulties in attracting and retaining younger workers.[5]
- **Increasing proportion of immigrant labour**. Although most of the temporary foreign workers coming to Canada, are dedicated to farm labour, an increasing number of these workers are being employed in the food and beverage processing industry.[6] This is also true for Alberta.[7]

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[2] Business Development Bank of Canada. 2018. Labour Shortage: Here to Stay. Accessed at https://www.bdc.ca/en/about/analysis-research/labour-shortage-2018

[3] Food Processing Skills Canada (FPSC). 2021. At the Crossroad to Greatness: Key Insights & Labour Market Research About Canada's Food and Beverage Processing Industry. Accessed at https://fpsc-ctac.com/wp-content/uploads/2021/04/LMI-Overall-Report_FPSC_04_29_21.pdf

[4] Statistics Canada. 2023. Labour force characteristics by age group, monthly. Table 14-10-0287-02. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1410028702

[5] Food Processing Skills Canada. 2020. Working Together – A Study of Generational Perspectives in Canada's Labour Force. Accessed at https://lmi.fpsc-ctac.com/wp-content/uploads/2022/08/Working-Together.pdf

[6] Falconer R. 2020. Grown locally, harvested globally: The role of temporary foreign workers in Canadian agriculture. Accessed at https://www.policyschool.ca/wp-content/uploads/2020/07/Grown-Locally-Falconer.pdf

[7] Statistics Canada. 2023. Temporary foreign workers in the agriculture and agri-food sectors, by industry. Table 32-10-0218. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210021801

- **Changing skills and training requirements**. The skill set of the food and beverage processing workforce is evolving in response to the increasing focus on agri-tech in the industry.[8] In the future there will be an increasing demand for more technical skills, such as digital and business skills, as well as for professionals, such as food and bioprocess engineers.[9,10]
- **High proportion of small and medium-sized businesses**. Most businesses in the industry are either small or medium-sized (i.e., less than 50 employees). These firms often have limited ability to engage in research and development activities or to access international customers, which can have implications for their growth.[11]
- **Challenging work environment**. Food and beverage processing employees report finding it challenging to work in the industry, citing low wages, lack of benefits, and poor working conditions as the main issues.[12,13,14]

[8] *Government of Canada. 2018. The agri-food sector today. Accessed at https://ised-isde.canada.ca/site/economic-strategy-tables/en/interim-reports-1*

[9] *Standing Committee on Agriculture and Forestry. 2019. Growing Canada's value-added food sector [Ottawa]. Senate, 28 June 2019, Web 9 July 2022. Accessed at https://sencanada.ca/content/sen/committee/421/AGFO/Reports/AGFO_SS-5_Report_Final_e.pdf*

[10] *Information and Communications Technology Council. 2021. Canadian agri-food technology: Sowing the seeds for tomorrow. Accessed at https://www.ictc-ctic.ca/wp-content/uploads/2021/11/canadian-agrifood-tech-2021.pdf*

[11] *Standing Committee on Agriculture and Forestry. 2019. Growing Canada's value-added food sector [Ottawa]. Senate, 28 June 2019, Web 9 July 2022. Accessed at https://sencanada.ca/content/sen/committee/421/AGFO/Reports/AGFO_SS-5_Report_Final_e.pdf*

[12] *Standing Committee on Agriculture and Forestry. 2019. Growing Canada's value-added food sector [Ottawa]. Senate, 28 June 2019, Web 9 July 2022. Accessed at https://sencanada.ca/content/sen/committee/421/AGFO/Reports/AGFO_SS-5_Report_Final_e.pdf*

[13] *Charlebois S., Hill A. and J. Vezeau. 2021. Canadian Food Manufacturing: An Overview in 2010, 2020 and Forecast to 2030. Dalhousie University, May 2021. Accessed at https://cdn.dal.ca/content/dam/dalhousie/pdf/sites/agri-food/FHCP percent20Report percent202030 percent20(May percent206 percent202021).pdf*

[14] *Food Processing Skills Canada. 2020. Labour Market Information Survey. Accessed at https://fpsc-ctac.com/wp-content/uploads/2021/01/2020-LABOUR-MARKET-INFORMATION-SURVEY.pdf*

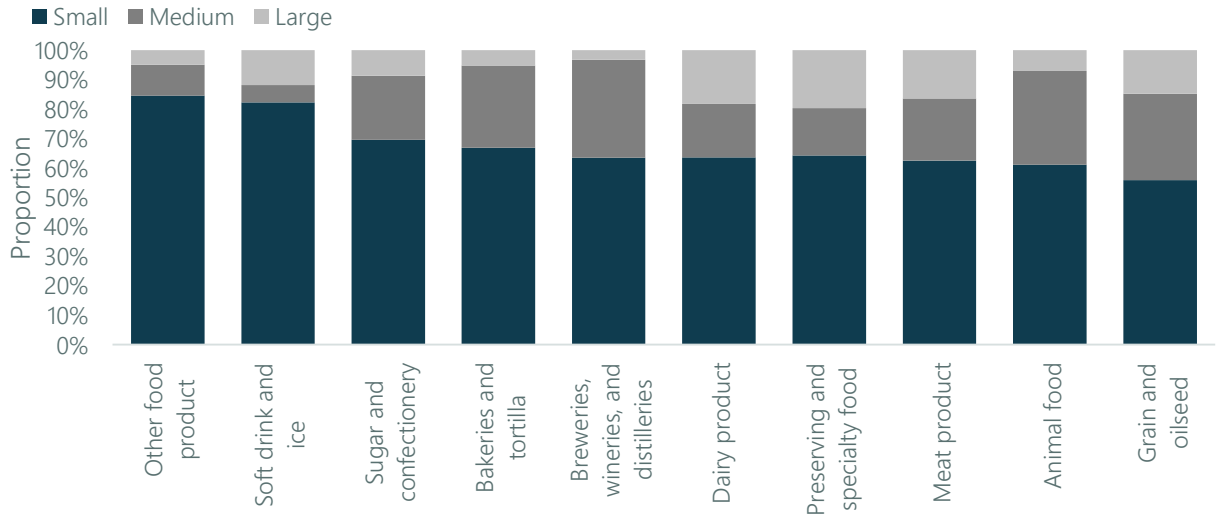
Workforce Profiles

This section provides a profile of Alberta's food and beverage processing workforce, including typical characteristics of both employers and employees.

Employer Characteristics

For the purposes of this report, we've assumed the definition of a small business is less than 10 employees, a medium business is 10 to 49 employees, and a large business is 50 or more employees. As shown in Figure 3, there are a higher proportion of small businesses operating in the other food product manufacturing and soft drink and ice manufacturing sub-sectors, and a higher proportion of large and medium size businesses operating in the animal food and grain and oilseed manufacturing sub-sectors.

Figure 3. Proportion of Businesses by Size and Sub-Sector



Sources: Statistics Canada, Canadian business counts, with and without employees, June 2022. Table 33-10-0568 and 33-10-0569. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3310056801 and https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3310056901
Notes: Data for seafood product preparation and packaging, tobacco product manufacturing, and cannabis product manufacturing have been excluded as these sub-sectors are not within scope.

Workforce Characteristics

The food and beverage processing industry workforce has a higher proportion of workers approaching retirement (i.e., 55 years and over) than youth workers entering (i.e., 15 to 24 years). The sub-sectors where this trend is most acute are sugar and confectionery, dairy product, and animal food manufacturing, as shown in Table 8. The bakeries and tortilla manufacturing sub-sector has a higher proportion of youth workers than the other sub-sectors.

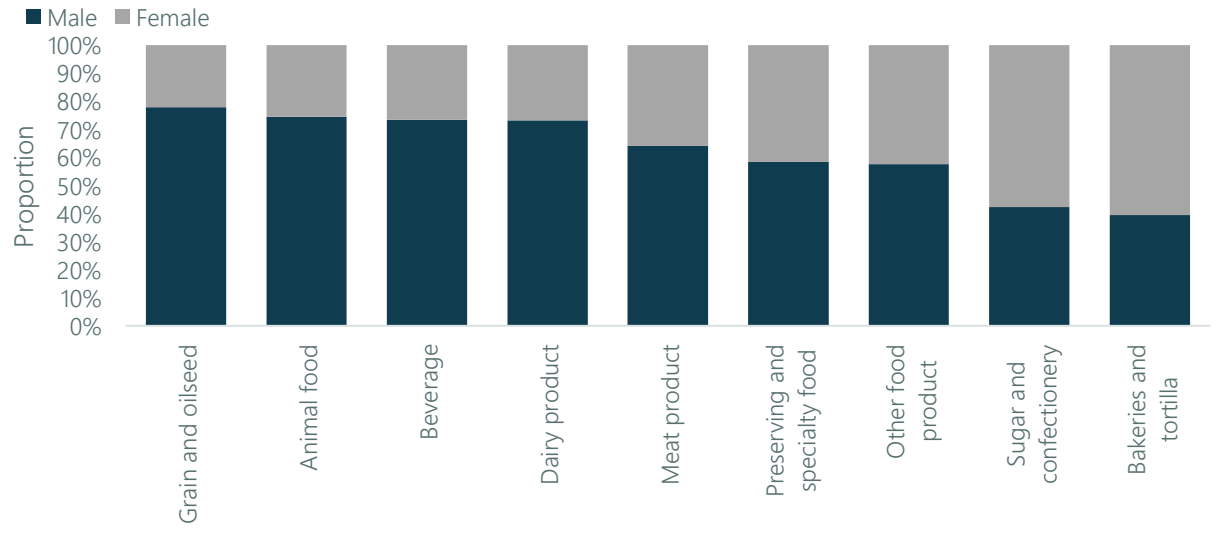
Table 8. Entrants Versus Exits in the Alberta Food and Beverage Processing Labour Force by Sub-Sector, 2021

Sub-Sector	Youth Workers (15 to 24 years)	Mature Workers (55 years and over)	Ratio
Bakeries and tortilla manufacturing	880	715	1.2
Beverage manufacturing	450	450	1.0
Meat product manufacturing	920	2,035	0.5
Other food product manufacturing	240	530	0.5
Grain and oilseed milling	60	160	0.4
Fruit and vegetable preserving and specialty food manufacturing	130	305	0.4
Animal food manufacturing	90	315	0.3
Sugar and confectionery product manufacturing	20	80	0.3
Dairy product manufacturing	95	360	0.3

Source: Statistics Canada, Industry groups by class of worker. Table 98-10-0448-01. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810044801

In terms of gender, the food and beverage processing workforce is primarily made up of male workers. Over 70 percent of the workforce at businesses engaged in grain and oilseed, animal food, beverage, and dairy product manufacturing are male, as shown in Figure 4. In contrast, less than 50 percent of the workforce at businesses operating in the sugar and confectionery and bakeries and tortilla manufacturing sub-sectors are male.

Figure 4. Gender of the Alberta Food and Beverage Processing Labour Force by Sub-Sector, 2021

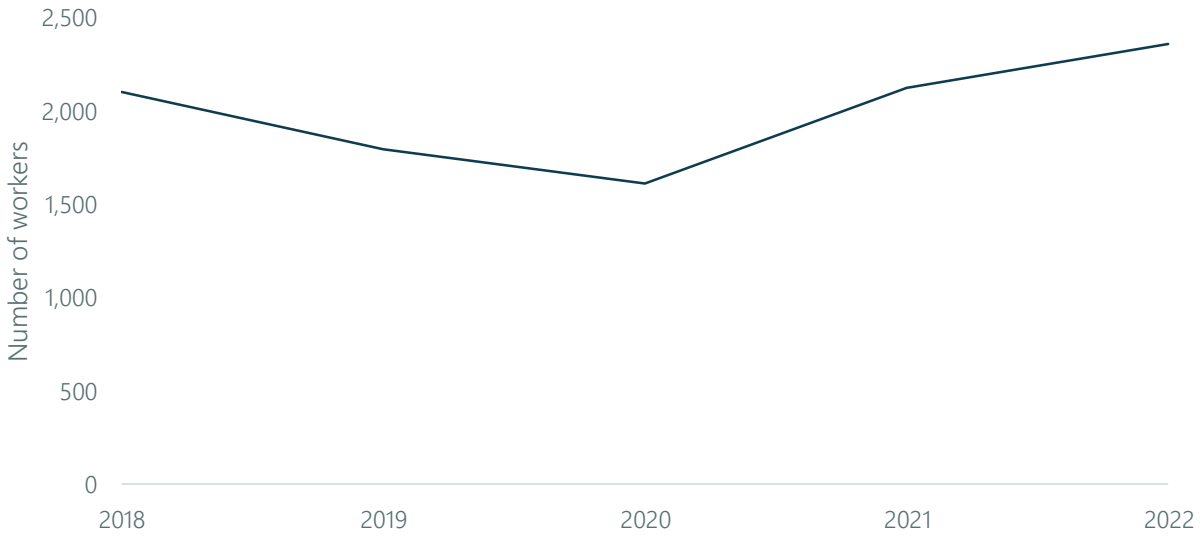


Source: Statistics Canada, Industry groups by class of worker. Table 98-10-0448-01. Accessed at

https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=9810044801

Temporary foreign workers are an important component of Alberta's food and beverage processing workforce. In particular, the meat product manufacturing sub-sector employs a high proportion of temporary foreign workers (approximately eight percent[15]). As shown in Figure 5 the number of temporary foreign workers in Alberta's food and beverage processing industry declining in 2020 and then increased in both 2021 and 2022 to approximately 2,360. This is consistent with trends in temporary foreign worker arrivals across the country over the period.[16]

Figure 5: Number of Temporary Foreign Workers Employed in the Food and Beverage Processing Industry, 2018 to 2022, Alberta



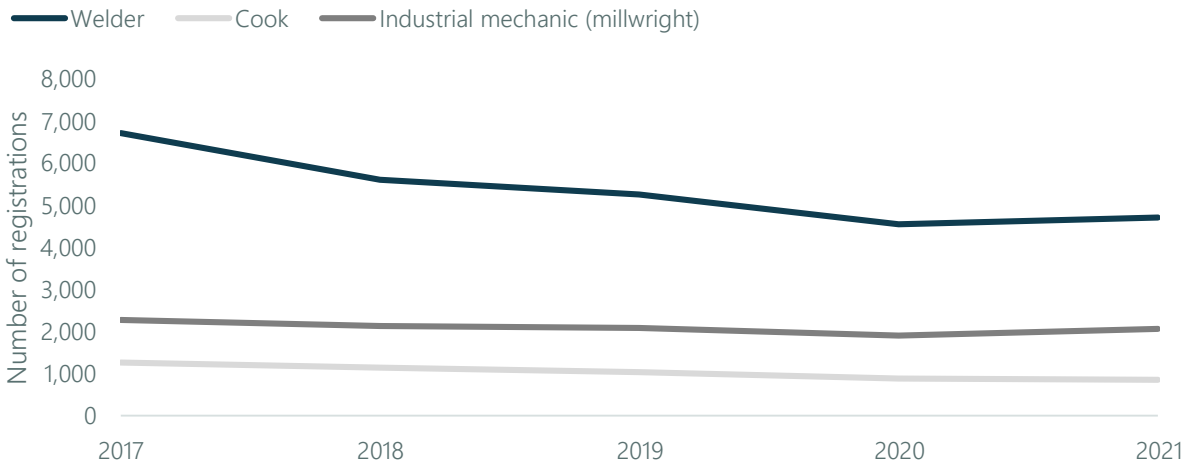
Source: Statistics Canada. Temporary foreign workers in the agriculture and agri-food sectors. Table 32-10-0218-01. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3210021801

Apprenticeship registrations in Alberta for skilled trades relevant to the food and beverage workforce (i.e., cooks, industrial mechanics/millwrights) has generally been declining, with a slight increase in 2021, as shown in Figure 6.

[15] *Statistics Canada. Table 32-10-0218-01 Temporary foreign workers in the agriculture and agri-food sectors, by industry and Table 36-10-0480-01 Labour productivity and related measures by business sector industry and by non-commercial activity consistent with the industry accounts*

[16] *Falconer R. 2020. Grown locally, harvested globally: The role of temporary foreign workers in Canadian agriculture. https://www.policyschool.ca/wp-content/uploads/2020/07/Grown-Locally-Falconer.pdf*

Figure 6. Apprenticeship Program Registrations in Red Seal Trades, 2017 to 2021, Alberta



Source: Statistics Canada, Number of apprenticeship program registrations in Red Seal trades. Table 37-10-0137-01. Accessed at https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=3710013701.

Workforce Forecasts

To estimate how much labour will be required by the food and beverage processing industry and identify high demand occupations as well as occupations that are at risk of decreasing demand, supply and demand forecasts were developed for the workforce for the 10-year period from 2024 to 2033.

The methodology and approach used to develop the forecasts is outlined below:

1. **Estimating Labour Demand**. Demand forecasts were developed based on current employment by sub-sector and occupation and expected population growth[17]. Improvements in labour productivity were assumed to account for 50 percent of the increase in demand for labour. Planned projects in the food and beverage manufacturing industry in Alberta are also included in these estimates. The occupational mix among the businesses we spoke with was heavily dependent on the business size; therefore, demand was estimated separately for each of small, medium, and large business sizes.
2. **Estimating Labour Supply**. Workforce supply estimates account for vacancy rates using data from Statistics Canada and are forecasted using data on entrants and exits from the labour force from Statistics Canada.
3. **Identifying the Gap**. The demand and supply estimates were then compared to identify the gap, or labour shortage / shortfall, for each sub-sector and each occupation. The gap represents the share of the workforce that needs to be supplied from other sectors, provinces and/or countries to meet the demand. Sub-sectors and occupations with a higher and increasing gap are those that are expected to face difficult labour market conditions.

The estimated labour shortage for each sub-sector is shown in Table 9. Over the first five years of the forecast from 2024 to 2028, the cumulative shortage will be between 7,030 and 8,580 positions, which is approximately 4.8 percent of the workforce over that same period. Over the second five years of the forecast from 2029 to 2033 the cumulative shortage will be between 8,400 and 10,280 positions which is approximately 5.5 percent of the workforce over that same period.

The highest projected shortages are in the meat product, bakeries and tortilla, and other food manufacturing sub-sectors. This is largely due to the high proportion of the workforce engaged in these sub-sectors in the province (approximately 65 percent of Alberta's food and beverage processing workforce).

[17] Population growth rates used in the forecast were derived from forecasts from Alberta Treasury Board and Finance and Statistics Canada.

Table 9. Forecasted Labour Shortage (Supply Less Demand) by Sub-Sector, 2024 to 2033

Sub-Sector	Cumulative (2024 to 2028)	Cumulative (2029 to 2033)
Animal food manufacturing	260 to 320	310 to 380
Grain and oilseed milling	190 to 230	230 to 280
Sugar and confectionery product manufacturing	100 to 130	120 to 150
Fruit and vegetable preserving and specialty food manufacturing	370 to 450	450 to 550
Dairy product manufacturing	400 to 480	470 to 580
Meat product manufacturing	2,940 to 3,590	3,510 to 4,290
Bakeries and tortilla manufacturing	770 to 940	920 to 1,130
Other food product manufacturing	860 to 1,060	1,030 to 1,260
Soft drink and ice manufacturing	570 to 690	680 to 830
Breweries, wineries and distilleries	570 to 690	680 to 830
Total	**7,030 to 8,580**	**8,400 to 10,280**

The breakdown by occupation is shown in Table 10. The largest projected shortages are in the general labour and skilled trades positions. General labour positions tend to be the entry point into the industry and account for the largest share of the workforce. As workers gain more experience and skills they may move into more skilled positions. This means that as the workforce ages and experienced workers exit there is growth in entry level as remaining workers move into higher level positions. For skilled trades there has been fewer people entering these occupations and there is increasing competition across sectors.

Table 10. Forecasted Labour Shortage (Supply Less Demand) by Occupational Category, 2024 to 2033

Occupational Category	Cumulative (2024 to 2028)	Cumulative (2029 to 2033)
Management	210 to 250	240 to 310
Supervisor and inspector	130 to 160	150 to 190
Sales and administration	330 to 400	400 to 480
Technical specialist	110 to 140	140 to 170
Skilled trades	920 to 1,120	1,100 to 1,340
General labour	5,330 to 6,510	6,370 to 7,790
Total	**7,030 to 8,580**	**8,400 to 10,280**

The forecasted labour shortage as a percentage of the workforce, presented as the average over each time period, is provided in Table 11. As highlighted in Table 10, the labour shortages are most acute for the skilled trades and general labour occupations.

Table 11. Forecasted Labour Shortage as Percentage of the Workforce, 2024 to 2033

Occupational Category	Average (2024 to 2028)	Average (2029 to 2033)
Management	1.8%	2.0%
Supervisor and inspector	1.6%	1.8%
Sales and administration	3.3%	3.8%
Technical specialist	1.6%	1.8%
Skilled trades	6.6%	7.5%
General labour	5.6%	6.4%

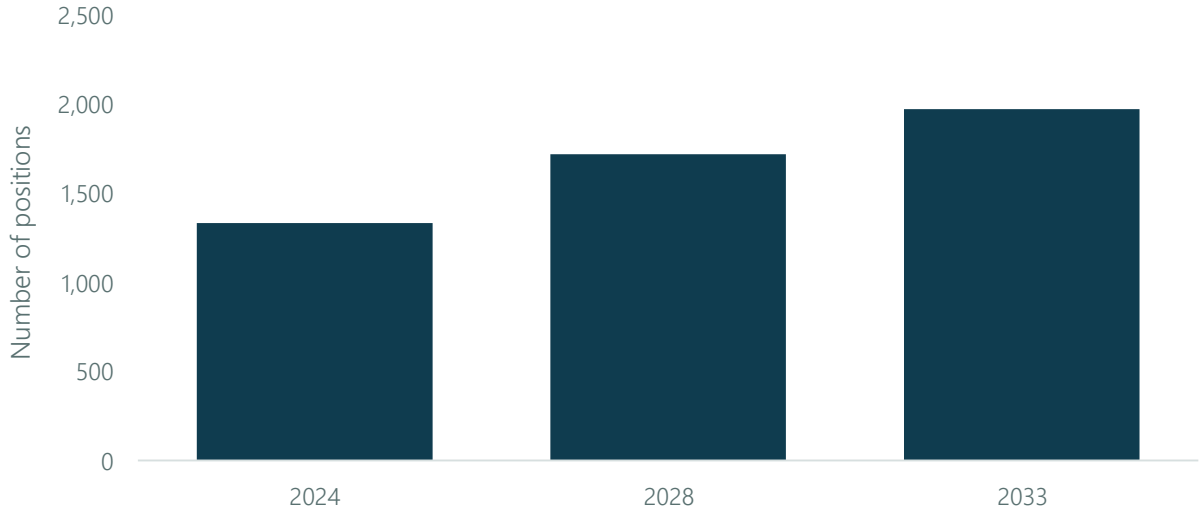
Legend

Less than 5%

More than 5%

The forecasted labour shortage for the food and beverage processing industry in Alberta for select years is shown in . In 2024, the shortage of positions as a proportion of the total demand is approximately 4.2 percent, in 2028 approximately 5.2 percent, and in 2033 approximately 5.7 percent. Between 2024 and 2028 the shortage is projected to increase by approximately 29 percent, and between 2028 and 2033 the shortage is projected to increase by approximately 15 percent.

Figure 7. Forecasted Labour Shortage for the Food and Beverage Processing Industry at Select Years, 2024 to 2033



Key Findings

- **Key workforce trends** influencing the food and beverage processing industry include **ongoing labour shortages, fewer young people entering the industry, an increasing proportion of immigrant labour, changing skills and training requirements, high proportion of small and medium sized businesses and challenging work environment.**
- Employers in the food and beverage processing industry in Alberta are **generally small and medium sized businesses with less than 50 employees.** Business size varies by sub-sector; businesses engaged in other food product and soft drink and ice manufacturing have a higher proportion of small business, and businesses engaged in grain and oilseed milling and animal food manufacturing have a higher proportion of large businesses.
- The food and beverage processing workforce has a **higher proportion of workers approaching retirement** (i.e., 55 years and over) **than youth workers entering** (i.e., 15 to 24 years). The workforce also has a **higher proportion of male workers** than female workers.
- **Temporary foreign workers are an important component** of Alberta's food and beverage processing workforce. The number of temporary foreign worker arrivals declined across the country during the pandemic but has since recovered.
- Workforce demand and supply forecasts were developed by sub-sector for the 10-year period from 2024 to 2033. **The highest projected shortages are in the meat product, bakeries and tortilla, and other food manufacturing sub-sectors and for the general labour and skilled trades positions.**
- The **estimated labour shortage** over the first 5 years of the forecast (2024 to 2028) is approximately 4.8 percent of the workforce, and over the second 5 years of the forecast (2029 to 2033) is approximately 5.5 percent of the workforce.

5. Summary of Industry Consultation

This section of the report provides an overall summary of the information received from both the survey and the interviews, conducted between February and October of 2023. For the businesses and employees working in the food and beverage processing industry in Alberta, our sample accounts for approximately five percent of businesses and approximately 21 percent of employees. Table 12 provides the sample breakdown by number of businesses and number of employees.

Table 12. Number of Businesses and Employees by Sub-Sector for Study Sample

Sub-Sector	Number of Businesses	Number of Employees
Animal food manufacturing	1	72
Grain and oilseed milling	3	70
Sugar and confectionery product manufacturing	1	106
Fruit and vegetable preserving and specialty food manufacturing	5	568
Dairy product manufacturing	4	148
Meat product manufacturing	12	1,624
Bakeries and tortilla manufacturing	7	671
Other food manufacturing	18	2,442
Beverage manufacturing	5	400
Total	**56**	**6,191**

Source: MNP Primary Data Collection (i.e., industry survey and key informant interviews).

Recruitment and Retention

Respondents were asked to report the top factors influencing both the recruitment and retention of workers. The leading factor for both recruitment and retention of workers was reported to be wages and salaries. Additional factors include benefits such as extended health, dental and drug plans, and workplace culture. Most respondents indicated that offering additional benefits to employees has a positive impact on both recruitment and retention, especially in terms of enhancing competitiveness and attracting qualified candidates. The top benefits respondents currently offer include:

- Extended health, dental and drug plans;
- Paid leaves (i.e., sick leave, family leave);
- Tuition reimbursements; and
- Registered retirement savings plan matching.

These benefits correspond to some of the best practices cited in the literature for recruiting and retaining workers in the food and beverage processing industry.[18]

Improving the workplace culture is one area that respondents noted could improve opportunities for both recruitment and retention. Respondents describe a positive workplace culture as respectful, inclusive/diverse, flexible, and family-oriented. In addition, respondents noted that allowing additional opportunities for human connection in the workplace (i.e., office celebrations, virtual coffee chats) and having management spend more time on the floor engaging with employees also improves workplace culture.

Some of the more specific challenges highlighted by respondents regarding recruitment and retention include:

- **Recruitment of youth is a particular challenge for the food and beverage processing industry.** Reasons for this include low wages, lack of advancement opportunities, and difficult working conditions. Respondents highlighted this as an area which could use more time and effort dedicated to it.
- **Retention of employees particularly new Canadians in rural areas of the province.** Some processing facilities which rely on immigration streams to fill gaps in their workforce are located in rural areas of the province. These facilities reported not wanting to send their employees for training in the urban centers as they may not want to come back to live and work in the more rural areas.

Most respondents noted that the positions they are most commonly hiring for are general labourers, including entry-level workers on the production line, and technical specialists and skilled trades, including drivers for shipping and receiving and machine operators. Secondary research suggests that the occupations which are most in-demand in this industry include the technical specialists, such as software engineers and designers, and data scientists. [19] Respondents also noted that even the entry-level general labour positions require some training (i.e., driving a forklift, packaging), most of which is offered on-the-job.

The most difficult positions to fill according to respondents tend to be the technical specialists and skilled trades occupations, including truck drivers, meat cutters, maintenance technicians, and shipping and receiving personnel. Respondents also reported that managers, supervisors, and general labourers are difficult to fill. Reasons for this difficulty include low supply of workers

Hiring Across Occupational Categories

General labourer positions are those which organizations are most commonly hiring for while technical specialists and skilled trade occupations are the positions that are most difficult to fill according to participating processors.

- MNP Primary Research

[18] *Food Processing Skills Canada. 2020. Labour market information survey: Canadian food and beverage manufacturing industry report. Accessed at https://fpsc-ctac.com/wp-content/uploads/2021/01/2020-LABOUR-MARKET-INFORMATION-SURVEY.pdf. Note that Alberta companies represented only 12 percent of the total survey responses from this report.*

[19] *Information and Communications Technology Council (ICTC). 2021. Canadian agri-food technology: Sowing the seeds for tomorrow. Accessed at https://www.ictc-ctic.ca/wp-content/uploads/2021/11/canadian-agrifood-tech-2021.pdf*

with the desired skills and training which leads to high levels of competition. Secondary research suggests that for the agri-food industry as a whole (i.e., including processing) the occupations which are the most difficult to fill tend to be the technical specialists, including blockchain engineers, machine learning experts, data scientists, and data infrastructure engineers.[20]

HR capacity is an important component for processors to consider as it can aid many of the factors discussed above such as talent acquisition, retention, benefits administration, and employee engagement. Over 80 percent of respondents noted that the company they work for has some human resource (HR) capacity. Approximately 35 percent of respondents indicated that they have at least one full time dedicated human resource (HR) staff. An additional almost 50 percent of respondents indicated that they have one staff member who dedicates between 25 to 50 percent of their time to HR work. HR capacity is correlated to the size of the company; the larger the company, the greater the HR capacity. It is important to note that the survey respondents and interview participants tended to be from larger companies. Consequently, the HR capacity reported may not be representative of that of all industry participants.

One indicator of the overall performance of a company in terms of recruitment and retention is turnover rates. Higher rates tend to be associated with poor working conditions including long hours, night shifts, cold plants and manual labour requirements. Although respondents were not able to provide any detailed information on turnover rates, most respondents indicated that turnover rates at their company are high.

Technology

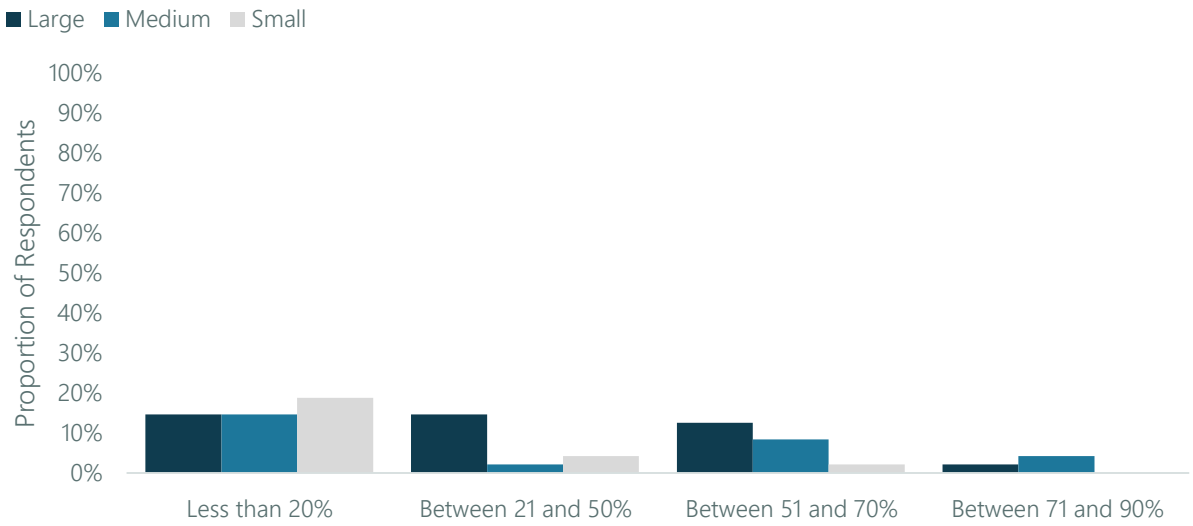
The adoption of technology has been slow in the food and beverage processing industry across Canada including Alberta. Approximately half of respondents reported they have automated less than 20 percent of their manufacturing. The proportion of businesses which have automated less than 20 percent of their manufacturing is common across all company sizes. However, companies reporting higher levels of automation (i.e., between 21 and 70 percent) are more likely to be large or medium sized companies. Less than 10 percent of respondents indicated they have automated more than 71 percent of their manufacturing.

> The likelihood of implementing technology grew in proportion to the size of a company's workforce.
>
> - MNP Primary Research Findings

Figure 8 shows the proportion of respondents which have automated various amounts of their manufacturing processes by size of company.

[20] *Information and Communications Technology Council (ICTC). 2021. Canadian agri-food technology: Sowing the seeds for tomorrow. Accessed at https://www.ictc-ctic.ca/wp-content/uploads/2021/11/canadian-agrifood-tech-2021.pdf*

Figure 8. Proportion of Respondents Which Have Automated Manufacturing Processes by Company Size



Source: MNP Primary Data Collection (i.e., industry survey and key informant interviews).

Compounding this, as noted in Chapter 3 of this report, Alberta's food and beverage processing industry is primarily comprised of small businesses which have additional challenges in terms of taking on additional technology and automation. Respondents additionally noted that small businesses have limited capacity to engage in these types of endeavors, limited funding available to invest in these endeavors, and have often limited volumes to make the investments worthwhile. Respondents noted that this is an area which could benefit from targeted development.

Major challenges faced by companies in adopting technologies as reported by primary research participants include:

- Cost;
- Inability to meet sufficient volume requirements;
- Access to equipment; and
- The absence of any relevant technologies available.

The most common technologies that have been adopted in the food and beverage processing industry are digital productivity tools, including cloud solutions (i.e., Microsoft 365, Google Cloud, Dropbox), collaboration tools (i.e., Zoom, Slack, Microsoft Teams), security software tools (i.e., anti-virus, anti-spyware, firewalls), and software or databases (for purposes other than telework or online sales). Respondents noted that incorporating these digital productivity tools means that they need to retrain their existing staff. They also noted that these tools may reduce the number of workers needed for specific tasks allowing them to redeploy those workers to other tasks.

Many companies are also beginning to employ certain types of artificial intelligence and big data, including material handling and supply chain or logistics technologies, data and analytics, and electronic information systems, and design or information control technologies. Respondents noted that incorporating artificial intelligence and big data are unlikely to mean creating new positions within their organization, but rather means they will need to retrain their existing staff.

> The majority of small- and medium-sized participating companies anticipate that future technology adoption will augment their workforce rather than outright replace segments of their labor pool.
>
> Larger companies, however, do expect their technology investments to reduce certain portions in their workforce.
>
> - MNP Primary Research Findings

Respondents reported that future technology investments are likely to be in automation and robotics to streamline their production lines, especially in terms of packaging and palletization. This is consistent with trends reported in the secondary literature.[21] One such example of these trends is reported in a 2021 study by the Information and Communications Technology Council examining Canadian agri-food technology which highlighted that a considerable shortage of skilled welders has led to the widespread implementation of robotic welding technology.[22] Companies are also looking to update their equipment to more energy-efficient options. Respondents noted that incorporating robotic and automation technologies is expected to have an impact on their workforce similar to the use of digital tools. They expect that they will need to retrain their existing staff members and in roles where fewer workers are needed, they will be able to redeploy those workers to other tasks.

Key factors influencing the decision of companies to make investments in these technologies include:

- Cost savings and availability of funds;
- Increases in productivity and efficiency; and
- Capacity constraints limiting the ability of companies to grow and expand.

In terms of variation by sub-sector, businesses engaged in other food manufacturing, meat product manufacturing, and bakeries and tortilla manufacturing were the most likely to report employing various types of technology, including digital productivity tools and artificial intelligence and big data.

Future investments in technology are likely to impact the number of workers required for certain tasks. Respondents noted that the impact of additional technology on smaller companies is likely to be in terms of re-deployment of existing staff; however, the impact on larger companies is likely to be a reduction in the number of workers required. In terms of occupations, additional technology is likely to mean additional staff may be required to operate and maintain the equipment and the skills associated with this may change based on the type of technology. Finally, future technologies also have implications for improving workplace safety.

[21] *Data obtained from EMC.*
[22] *Information and Communications Technology Council (ICTC). 2021. Canadian agri-food technology: Sowing the seeds for tomorrow. Accessed at https://www.ictc-ctic.ca/wp-content/uploads/2021/11/canadian-agrifood-tech-2021.pdf*

Skill Requirements

Skill gaps in the food and beverage processing workforce as reported by respondents include language barriers given the high proportion of new Canadians in the industry, and computer/digital skills. However, some respondents also noted that there isn't so much a skills gap as there is a lack of people willing to work in the food and beverage processing industry.

> Training requirements are expected to be more frequent in the future as workers and companies alike keep pace with technological advancements.
>
> Relatedly, some of the required training will focus on digital fluency along with computer-based skills.
>
> - MNP Primary Research Findings

In terms of the anticipated future skills, competencies and training required in the food and beverage processing industry, respondents noted that reading and speaking English will continue to be a requirement and there will be an increasing need for computer and digital literacy skills and training. Relatedly, respondents noted that there has been a shift in educational programming towards more engineering-type programs as well as more full-time-type programs. Respondents also noted that there will be an increasing requirement for regular training in the future. This is consistent with secondary literature suggesting that there will be an increasing demand for more technical skills in the future, such as digital and business skills, as well as for professionals, such as food and bioprocess engineers.[23] Secondary literature also indicates that there is likely to be a shift towards more engineering-type programs, such as food engineering and bioprocessing engineering.[24] Post-secondary training institutions interviewed for this project provided their perspective on skill gaps in the workforce:

- Business skills (i.e., leadership training, HR, marketing, supply chain management);
- Soft skills (i.e., critical thinking, problem solving, mental health, civility in the workplace);
- Language skills specifically for new Canadians; and
- Technical skills (i.e., programming skills, digital skills, computer literacy, use of portals, testing, analysis, quality control, assurance, mechatronics, robotics).

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[23] *Standing Committee on Agriculture and Forestry. 2019. Growing Canada's value-added food sector [Ottawa]. Senate, 28 June 2019, Web 9 July 2022. Accessed at https://sencanada.ca/content/sen/committee/421/AGFO/Reports/AGFO_SS-5_Report_Final_e.pdf*
Information and Communications Technology Council. 2021. Canadian agri-food technology: Sowing the seeds for tomorrow. https://www.ictc-ctic.ca/wp-content/uploads/2021/11/canadian-agrifood-tech-2021.pdf

[24] *Food Processing Skills Canada (FPSC). 2021. At the Crossroad to Greatness: Key Insights & Labour Market Research About Canada's Food and Beverage Processing Industry. Accessed at https://fpsc-ctac.com/wp-content/uploads/2021/04/LMI-Overall-Report_FPSC_04_29_21.pdf*

Workforce Development and Training

The majority of respondents rated the post-secondary training system as adequate, in contrast to secondary literature which suggests more than half of food and beverage processors across Canada rate the educational programming for this industry to be either inadequate or non-existent.[25]

In terms of variation by sub-sector, businesses operating in fruit and vegetable preserving and specialty food manufacturing, bakeries and tortilla manufacturing, meat product manufacturing, and breweries were more likely to rate Alberta's post-secondary training system as adequate. The main suggestions from respondents on how to enhance the post-secondary training system include:

Looking for Solutions: High Flex

High flex programming is currently being offered in Alberta's post-secondary system. This programming allows students additional options in how they want to take a given course. For example, students can either take the course fully from home, or can access part or all of the course in-person at various centers. This condenses or eliminates the time they need to travel and access education for, which ultimately aids in attracting prospective students to these programs.

- Offer more hands-on or experiential learning opportunities for students; and
- Offer more specific programming, including programs on beekeeping, cheesemaking, and pasteurization as well as programs which are more specific to different processing plants.

Respondents also noted that graduates from brewer programs in other provinces seem to have greater knowledge than those graduating from programs in Alberta.

Several post-secondary institutions were also interviewed for this project. Barriers to students entering training programs as noted by these respondents include:

- Geography, especially for students who live in rural or remote areas of the province;
- Funding, especially for micro-credential (i.e., non-credit or upskilling) courses;
- Lack of knowledge of the available training opportunities in this industry;
- Language barriers for New Canadians;
- Low wages as prospective students can go into other streams and make a higher wage; and
- Other aspects, or perceived aspects, of working in this industry, including shift work, limits on quality of life or flexibility, lack of advancement opportunities, less autonomy in roles, less focus on social responsibility (i.e., animal welfare).

[25] *Food Processing Skills Canada. 2020. Labour market information survey: Canadian food and beverage manufacturing industry report. Accessed at https://fpsc-ctac.com/wp-content/uploads/2021/01/2020-LABOUR-MARKET-INFORMATION-SURVEY.pdf. Note that Alberta companies represented only 12 percent of the total survey responses from this report.*

Specific suggestions to enhance training at post-secondary institutions noted by post-secondary respondents include:

- Access supports from industry, including financial support (i.e., for research and innovation) and opportunities to engage in direct collaboration with industry to help ensure programming offered is adequate for their needs;
- Reduce common student barriers to entry, including offering additional funding for programs, providing more flexible training opportunities (i.e., high flex model), and engaging in strategies which will increase the awareness of this industry to prospective students;
- Offer additional relevant programs, including engineering design technology, supply chain management, leadership, traceability, business and marketing, social media, or programming which supports entrepreneurial efforts specifically for small businesses;
- Update existing programs to ensure they continue to be relevant, including offering food science programs with applied research and/or technology perspective, as opposed to university research and/or nutrition perspective;
- Offer programming in more innovative ways, including bundling of courses which can be marketed to specific demographics, providing workplace bridging programs (i.e., accounting, engineering), tailor some company-specific programming to make it relevant for broader aspects of this industry, offer more hands-on training opportunities, and make use of the continuing education space to reduce the required approval times; and
- Create a centralized portal for all post-secondary institution programming, including opportunities for funding to reduce amount of time smaller businesses require to research training opportunities.

However, post-secondary training institutions also indicated that some additional training could be beneficial for employers to improve workforce recruitment and retention. This could include providing cross-cultural training or training on how to utilize non-traditional pools of labour (i.e., persons with disabilities, New Canadians). Employers also need to be better trained on how to best utilize, and potentially improve upon, the people and skillsets available to them. For example, contextual training can solve some behavioral or personality issues, and employees can also offer insights from the prospective buyers or client's point of view.

> The need for both employee and employer training were identified by study participants.
>
> Digital skills and English language skills were identified as the most prominent skills for the workforce in the future while cross-cultural training was highlighted as important for employers.
>
> - MNP Primary Research Findings

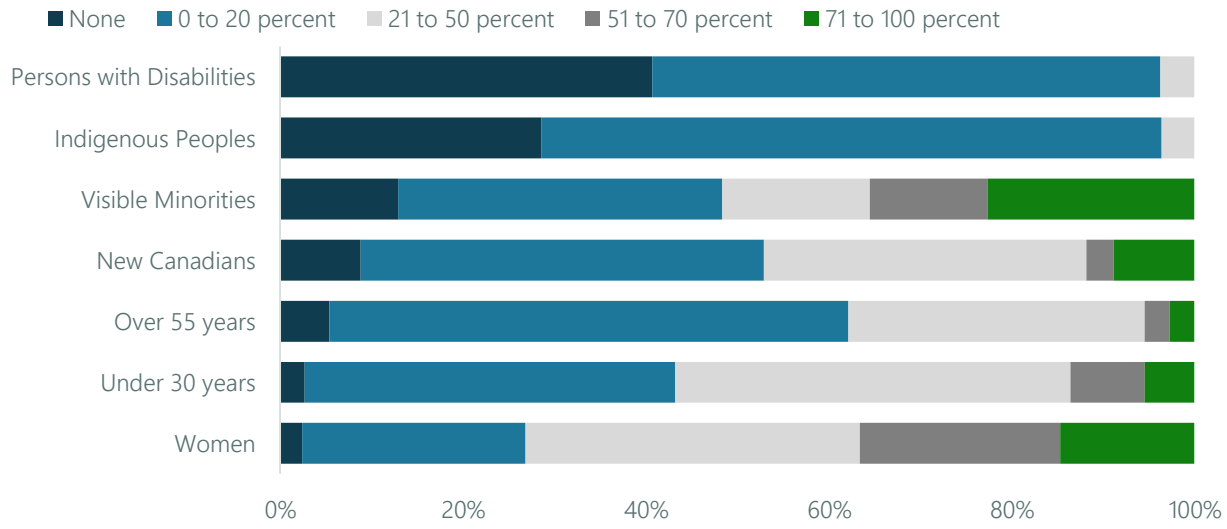
Post-secondary respondents also provided suggestions for industry which would ultimately improve the training they can offer. For example, respondents suggested that the manufacturing industry create a forum where various businesses operating in this space could come together to discuss possible transferable skills common to many businesses operating in this industry. This would both provide post-secondary institutions information on what programming would be relevant and would help these institutions get the critical mass of interest to offer programs which are cost recoverable.

Respondents from post-secondary institutions also noted that future training will need to be more continuous in order to keep up with the fast pace of changes in technology.

Equity, Diversity, and Inclusion

Most respondents reported that their current workforce includes at least some employees from a range of equity deserving groups (EDGs), including women, New Canadians, Indigenous peoples, visible minorities, persons with disabilities, and different ages. Almost half of respondents indicated the proportion of their workforce which is from EDGs is less than 20 percent. Figure 9 shows the proportion of the workforce by EDG. As shown in the figure, the most common EDGs represented in Alberta's food and beverage processing workforce are women and youth; this corresponds to findings in secondary literature that most firms in Canada in this industry are already targeting these two groups.[26]

Figure 9. Proportion of Workforce by Equity Deserving Group



Source: MNP Primary Data Collection (i.e., industry survey and key informant interviews).

In terms of variation by business size, in our sample large businesses are more likely to employ some workers across all EDGs than either small or medium size businesses. In terms of variation by sub-sector, in our sample businesses operating in the other food manufacturing, meat product manufacturing, and bakeries and tortilla manufacturing are more likely to employ some workers across all EDGs than businesses operating in other sub-sectors.

The majority of respondents indicated that due to the labour shortage they are not able to actively recruit a range of EDGs; rather, they have to hire the few candidates they find that are both qualified and willing. The respondents that did indicate they were actively recruiting a range of EDGs tended to be the larger companies and noted that they were specifically targeting women, youth, and New Canadians, which is

[26] *Charlebois S., Hill A. and J. Vezeau. 2021. Canadian Food Manufacturing: An Overview in 2010, 2020 and Forecast to 2030. Dalhousie University, May 2021. Accessed at https://cdn.dal.ca/content/dam/dalhousie/pdf/sites/agri-food/FHCP percent20Report percent202030 percent20(May percent206 percent202021).pdf*
Food Processing Skills Canada. 2020. Labour market information survey: Canadian food and beverage manufacturing industry report. Accessed at https://fpsc-ctac.com/wp-content/uploads/2021/01/2020-LABOUR-MARKET-INFORMATION-SURVEY.pdf. Note that Alberta companies represented only 12 percent of the total survey responses from this report.

again consistent with information found in secondary literature.[27] Specific recruitment strategies noted by respondents include:

- Connecting with Immigration Services and Indigenous groups;
- Targeted online recruitment;
- Providing additional benefits, including RRSP matching and scholarships for post-secondary education;
- Partner with specific organizations that promote females in the industry;
- Providing full-time work as well as flexible work arrangements (e.g., 4 days on/3 days off);
- Making allowances for balancing work and family; and
- Improving the workplace culture (i.e., birthday celebrations).

Respondents also noted that opportunities existed to increase the proportion of EDGs in the workforce particularly in the face of labour challenges. Challenges with hiring EDGs noted by respondents include language barriers and finding qualified candidates (i.e., manual work requirements providing limitations for women, extra consideration for those with disabilities). Respondents located in rural areas also noted that recruiting New Canadians to rural locations can also be a challenge.

Immigration Programs

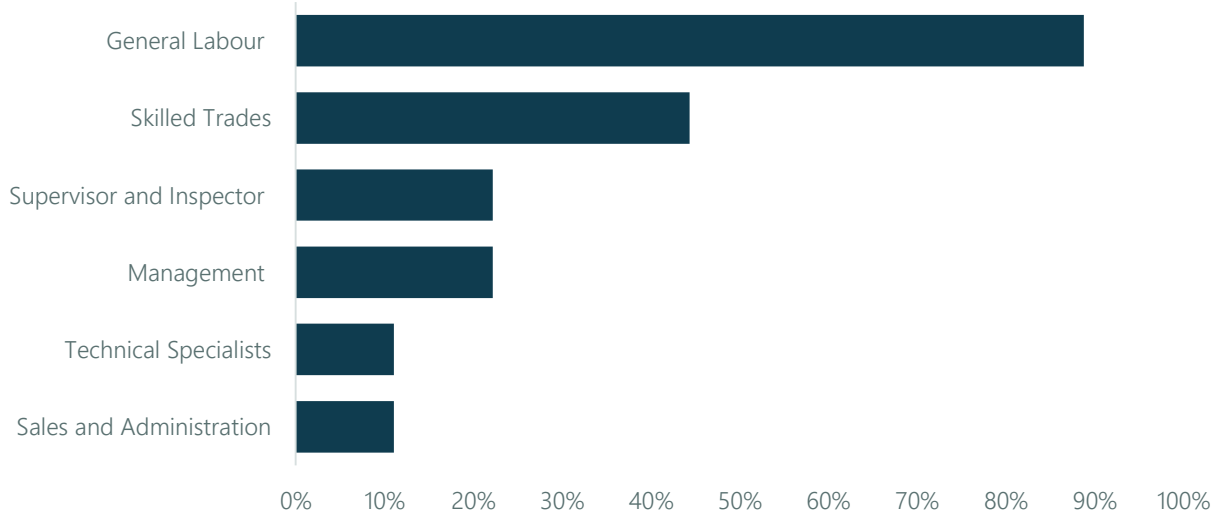
Approximately 57 percent of respondents reported that they do not use immigration programs as the local market provides a sufficient supply of labour and/or they do not have sufficient human resource capacity to support using these programs. However, many of these businesses indicated they would be open to using these programs in the future if the specific skills they are looking for cannot be found locally. Challenges to using immigration programs noted by these respondents include the process, additional responsibilities (i.e., providing housing), and the high cost. These obstacles were especially acute for small- and medium-sized businesses.

> *"We are definitely increasing our use of those programs. Now it seems the labour market continues to get tighter and so we have to do what we have to do to get the people in our facility to execute on orders."*
>
> *- MNP Key Informant Interview*

[27] *Food Processing Skills Canada. 2020. Labour market information survey: Canadian food and beverage manufacturing industry report. Accessed at https://fpsc-ctac.com/wp-content/uploads/2021/01/2020-LABOUR-MARKET-INFORMATION-SURVEY.pdf. Note that Alberta companies represented only 12 percent of the total survey responses from this report.*

The remaining 40 percent of respondents, which are primarily large-sized businesses operating in the other food, bakeries and tortilla, and meat manufacturing sub-sectors, reported using immigration programs as the local market does not provide a sufficient supply of labour. These programs are primarily used to fill general labour and skilled trades positions, as shown in Figure 10.

Figure 10. Positions Filled Through Immigration Programs for the Food and Beverage Processing Industry



Source: MNP Primary Data Collection (i.e., industry survey and key informant interviews).

Specific positions filled by immigration programs include:

- Shipping and receiving personnel;
- Process control and machine operators;
- Material handlers (i.e., forklift operator, warehouseperson, truck loader, packer, power truck driver, pallet loader);
- Industrial butchers and meat cutters, poultry preparers and related workers;
- Bakers; and
- Industrial electricians.

Almost 90 percent of respondents that use immigration programs indicated that they primarily use the Temporary Foreign Worker Program (TFWP). Other programs respondents reported using were the Alberta Advantage Immigration Program, Express Entry Permanent Residency (for skilled workers), Rural Renewal Program, Mexico Canada Seasonal, and International Experience Program.

Critical Needs

Respondents were asked to provide the critical areas of focus for the food and beverage processing workforce in Alberta. These areas included skill development, workforce recruitment, and education and training.

Respondents noted that major challenges facing the industry today include workforce recruitment and retention especially in terms of the younger generation, a shortage of skilled labour, and inflation (i.e., increased costs of materials and logistics). Similarly, the major challenges that will be facing the industry in the next 10 years include workforce recruitment and retention, the economy, and government policy, specifically in terms of climate change and the carbon tax. More specific examples noted by respondents include:

- Less of a desire to work in this industry, particularly among youth;
- Finding employees to fill operational positions in the face of the growing desire to work from home;
- The aging population of employees in specific roles, such as truck drivers;
- Increasing cost of goods and services (i.e., inflation, carbon tax);
- Ongoing supply chain issues causing equipment delays and further driving up costs; and
- Loss of competitiveness, particularly for smaller companies.

Respondents also noted that although there are a variety of supports currently available in terms of recruitment and retention and funding opportunities, companies find it challenging to find all the required information. This is especially true for the smaller companies, who have less capacity to engage with all the available materials and tools.

To address some of the labour challenges, respondents were asked what changes they have implemented in terms of how their company operates (i.e., processes, methods, automation). Some of the changes include offering different (i.e., more flexible) work hours, providing benefits (i.e., RRSP matching), and changing the types of clients they choose to interact with.

Respondents were asked where they would most like AFPA to focus their efforts when it comes to workforce development. The most common responses were workforce recruitment and retention, education and training, and skill development.

Key Findings

- **The adoption of technology has been slow in the food and beverage processing industry.** One of the reasons for this is that the industry is primarily comprised of small businesses, which have limitations in terms of capacity to engage and fund new technologies and automations. Respondents highlighted this as an area which could use some targeted development.
- **Wages and salaries, benefit plans, and workplace culture were said to be the top factors influencing both recruitment and retention among respondents.** Of these factors, the one that is often overlooked in terms of improving recruitment and retention is creating a positive workplace culture. Respondents describe this type of culture as being respectful, welcoming, and inclusive/diverse.
- **Recruitment of youth is a particular challenge for the food and beverage processing industry.** Respondents highlighted this as an area which could use more time and effort dedicated to it.
- Respondents noted that **improvements to the post-secondary programming available in the province can only be made through consistent partnerships with industry.** Respondents also noted this is an area that could do with some targeted development in the province.
- In terms of skills, respondents noted that **digital upskilling and additional English language skills will be increasingly in demand given** the continued importance of immigrant workers and additional technology and automations available. This is also an area respondents highlighted should be a focus for targeted efforts towards improving the workforce.

6. Recommended Strategies

This section outlines the strategies identified to support workforce development in Alberta's food and beverage processing industry. These strategies were developed based on a broad understanding of this industry as well as on input from businesses and post-secondary institutions operating in this industry. They also incorporate considerations identified through a review of similar initiatives being undertaken by other organizations.

The strategies encompass five main themes:

- Technology and automation;
- Central resource hub;
- Skill development;
- Changes to post-secondary offerings; and
- Recruitment and retention.

Each strategy has a priority attached to it. The priorities were assigned based on information gathered from participants in the validation sessions. The priority rankings are outlined in Figure 11.

Figure 11. Priority Ranking

	Highest Priority	Strategies with the highest number of votes.
	Medium Priority	Strategies with a mid-level of votes.
	Lowest Priority	Strategies with the lowest number of votes.

Technology and Automation

Technology and automation strategies to support workforce development in Alberta's food and beverage processing industry are outlined in this section.

Establish a Technology Working Group

Rationale	Respondents identified the importance of engaging with technology in order to help address some of the workforce challenges currently experienced by businesses operating in Alberta's food and beverage processing industry. This is especially pertinent for the small and medium sized businesses who, at present, may not have the capacity or funding to engage with relevant technologies. This strategy entails developing a technology working group specific to small and medium sized businesses which would: • Assess technology needs and identify technologies that could be used to address labour shortages and/or improve productivity; • Identify best practices and shared learnings from the use of technology; • Identify opportunities for collaboration in the adoption, use or maintenance of technology; and • Explore opportunities with Alberta Innovates, EMC or other organizations to support the technological advancement of the industry. This strategy would assist small- to medium-sized processors to understand opportunities for increasing adoption of technology and automation, as well as identify areas for collaboration with other industry participants.
Timing	This strategy should be initiated in the short-term (6 to 12 months) to medium-term (1 to 3 years) contingent on demand.
Key Actions and Considerations	The following actions should be considered by industry as part of this strategy: **Establishment** • Determine the appropriate players to lead and participate in the working group. There should be one person or organization assigned to coordinate the working group ('the coordinator'). The coordinator will assume the responsibility of establishing a suitable working group, facilitating collaborative efforts, and ensuring the execution of initiatives. • Include representation from training institutions, businesses, and relevant associations. **Operations** • Consult with small- and medium-sized processors to assess their technological needs and gaps.

Establish a Technology Working Group

- Identify existing and emerging technologies that processors need and would benefit from.
- Identify pilot projects with specific processors to implement technologies.
- Research what technology other jurisdictions and countries are using including the use of machinery with multilingual instructions built in to (reduce the training and error factors made while training foreign workers).
- Identify relevant experts to provide information on identified opportunities as required.
- Determine a list of metrics to assess outcomes of the pilot program(s).
- Identify support from various levels of government to access relevant technological solutions (i.e., grants, subsidies).

Dissemination

- Share findings and outcomes with industry participants through existing communication channels and industry conferences.

Resourcing

Resourcing that would be required as part of this strategy includes:

Human Resourcing

- AFPA would lead the initiation of the working group and identify the coordinator to oversee the working group.

Financial Resourcing

- Working Group members would provide in-kind contributions of time.
- Specific initiatives could be funded by industry or through a successful grant application to a suitable funding organization.

Central Resource Hubs

Central resource hub strategies to support workforce development in Alberta's food and beverage processing industry are outlined in this section.

Develop a Sustainable Model for HR Hubs

Rationale	This strategy is to develop a sustainable model for HR hubs, provincially or regionally, that provide a concierge service to employers. The food and beverage processing industry is comprised of many small and medium size businesses which often lack sufficient human resource capacity within their organizations, either because their business is too small to warrant robust, dedicated resources or their business lacks the financial capacity to support full-time HR functions. This strategy entails development of a detailed sustainable model for the implementation of HR hubs. It will include: • A delivery model; • The service offerings; and • Financial support. Execution on this strategy will provide sufficient information to determine next steps toward the implementation of HR hubs to support the capacity gaps in the industry.
Timing	This strategy should be initiated in the short-term (6 to 12 months) to medium-term (1 to 3 years).
Key Actions and Considerations	The following actions should be considered by industry as part of this strategy: • Determine who will lead the initiative. • Review existing models for the provision of HR service both within food and beverage processing and other sectors. • Identify service offerings to be provided by the hubs. • Identify funding model for the hubs. • Identify delivery models and potential success metrics such as milestones and KPIs for the model. • Identify service providers. • Explore opportunities to pilot the model and service offerings. • Use learnings from pilots to finalize the model and service offerings. • Develop and execute an implementation plan. • Develop outreach and engagement communication plans to promote the concept and to build awareness across the industry.

Develop a Sustainable Model for HR Hubs

Resourcing	Resourcing that would be required as part of this strategy includes: **Human Resourcing** • AFPA to provide oversight to this initiative. • Engage consultancy to support team to develop plan. • In-kind time commitment from various industry stakeholders. **Financial Resourcing** • Key stakeholder groups would provide in-kind contributions of time. • Funding for HR hub(s) could be provided through a combination of industry and government; may include applications to relevant funding streams.

Develop All-in-One Supports Tool

Rationale	Respondents noted that although there are a variety of tools currently available to them offering various supports, many businesses in this industry find it challenging to find and engage with these tools. More specifically, respondents noted that these tools are often available in many different locations and require various application methods making the process challenging to engage in, especially for the smaller companies. Therefore, this strategy aims to develop an all-in-one online tool that: • Guides employers to the recruitment and retention resources that are already available through the other food processing or manufacturing associations across the country; • Helps employers find each other to develop cooperative projects and initiatives; and • Helps employers identify sources for project funds and grants for upgrading technology and/or equipment.
Timing	This strategy should be initiated in the short-term (6 to 12 months) and it should be maintained continuously.
Key Actions and Considerations	The following actions should be considered by industry as part of this strategy: • Determine who should lead the development of the online tool. • Identify what topics will be included in the tool and the type of supporting information. This list is anticipated to include recruitment and retention, human resources, training and development, industry regulations and standards and funding programs. • Conduct research to identify what resources exist and compile the information that will be included. It is recommended this be added as part of the research outreach to government agencies and associations to identify what tools are currently available. • After identifying information to be included in the tool, create a summary for each piece of information to be incorporated into the all-in-one tool. These summaries should be tailored for the food and beverage processing sector, providing details such as the nature of the information, its potential benefits to a food or beverage processor, grant expiry dates, applicable immigration streams for specific sub-sectors, and so on. • Identify appropriate platform for hosting the information. • Engagement should be conducted with all relevant businesses and industry associations currently operating in this industry to increase awareness and to offer support to the process.

Develop All-in-One Supports Tool

Resourcing	Resourcing that would be required as part of this strategy includes: **Human Resourcing** • AFPA to lead this initiative. • Research can be done by existing resources or in collaboration with post-secondary co-op programs. **Financial Resourcing** • This approach can be funded through a successful grant application to a suitable funding organization. • Consideration should be given to providing tiered access to information and supports. For example, AFPA could develop partnerships with resource providers such as immigration consultants or human resource service providers to provide services to members at preferential rates.

Skill Development

Skill development strategies to support workforce development in Alberta's food and beverage processing industry are outlined in this section.

Improve English Language Skills

Rationale	Respondents highlighted the need for adequate English language skills, especially for New Canadians. Certain sub-sectors employ a high proportion of new Canadians and are likely to continue to do so. As such, this strategy aims to identify existing English language training that could be tailored or adapted specifically for the food and beverage processing industry. This strategy will require partnerships with organizations such as post-secondary institutions, non-profit institutions, and private trainers. It could build upon previous AFPA initiatives when it comes to tools and resources for employers who recruit and train a global workforce.
Timing	This strategy should be initiated in the short-term (6 to 12 months) and continued in the medium- and long-term (1 to 5 years).
Key Actions and Considerations	The following actions should be considered by industry as part of this strategy: • Review past language initiatives offered through AFPA. • Fulsome research should be conducted on all the institutions currently offering English language training, with a focus on those institutions who can provide more specific and targeted on-the-job language training, especially with regards to the food and beverage processing industry. Training that is provided in a flexible format (e.g., online or with childcare covered) should also be highlighted to afford equal opportunity to participate. • This research should be updated regularly and shared with processors. • Promotion of the importance of language in the workplace, including in terms of a reduction in errors and increasing efficiencies and safety, should be conducted among all employers and associations currently operating in this industry. • From this research, specific candidate organizations will be chosen and contacted to discuss how the existing programs could be tailored or adapted specifically to the food and beverage processing industry. • Once the adapted programs are available, relevant businesses in the industry will need to be notified of the opportunities. • Explore the opportunity to combine multiple processors for the purpose of providing training to a larger group.

Improve English Language Skills

Resourcing	Resourcing that would be required as part of this strategy includes: **Human Resourcing** • AFPA should lead the research and the sharing of the findings. **Financial Resourcing** • Funding will be required for businesses to offer English language training to existing and new employees. This approach can either be funded independently or receive support through a successful grant application to a suitable funding organization. • Consideration should be given to providing tiered access to information and supports. For example, AFPA could develop partnerships with training providers to provide services to members at preferential rates.

Changes to Post-Secondary Institution Programming

Changes to post-secondary institution programming to support workforce development in Alberta's food and beverage processing industry are outlined in this section.

Streamline Information Sharing Between Industry and Post-Secondary Institutions

Rationale	Respondents indicated that post-secondary institutions need to receive relevant information from the food and beverage processing industry (i.e., industry needs, specific vacancies and skill requirements, new technology) in a more consistent and timely manner to ensure that the post-secondary system is providing adequate programing. Specific post-secondary programming needs highlighted by industry include: • English language skills; • Incorporation of additional on-the-job training opportunities in existing and new programming; and • Digital upskilling. This strategy is therefore to develop a coordinated mechanism to share information on needs between industry and training institutions including identifying modifications to post-secondary institution programming based on industry demand. As some conduits between industry and post-secondary institutions already exist, this strategy would seek to formalize and aggregate those arrangements.
Timing	This strategy should be initiated in the short-term (6 to 12 months) and continued in the medium- and long-term (1 to 5 years).
Key Actions and Considerations	The following actions should be considered by industry as part of this strategy: • Establish formal pathways for industry and post-secondary institutions to share information easily, effectively, and regularly with one another. This may be facilitated by AFPA. • Consider the unique needs of rural and more northern communities in suggested post-secondary institution changes. Training that is provided in a flexible format (e.g., online or with childcare covered) should also be highlighted to afford equal opportunity to participate. • Discuss creative ways to modify existing programming or add new programming. For example, adding options for a minor in certain programs, adding short-term programming to help reorient people into the profession, offering micro-credential programs, and prioritizing professions that are aging out fastest and/or are the most difficult to replace. • Discuss creative ways to increase interest among potential students (i.e., offer

Streamline Information Sharing Between Industry and Post-Secondary Institutions

employment placements, offer coop programs specifically with technology-savvy companies, offer internships).
- Research the programs and curriculums currently offered in other jurisdictions or countries.
- Add more hands-on or practical experience in programming where possible.
- Research how to bridge the gap between foreign education and Canadian standards in programming.

Resourcing	Resourcing that would be required as part of this strategy includes: **Human Resourcing** • AFPA should create a working group with members from both industry and post-secondary institutions which can put a plan together for moving forward. • Specific representation from small and medium sized businesses should be included in the working group. **Financial Resourcing** • This can be funded through a successful grant application to a suitable funding organization. • Changes to the curriculum or course development that are identified may be funding from existing resources or through contributions from businesses that will use the course.

Recruitment and Retention

Recruitment and retention strategies to support workforce development in Alberta's food and beverage processing industry are outlined in this section.

Support Equity Deserving Group Recruitment and Retention

Rationale	Respondents expressed the importance of creating a positive workplace culture, which is inclusive, diverse and welcoming, to help attract and retain members of EDGs. This presents an opportunity for Alberta's food and beverage processing workforce to distinguish itself in achieving Environmental, Social, and Governance (ESG) objectives, with a strong focus on promoting Equity, Diversity, and Inclusion (EDI). In both governmental organizations and private companies, there has been a shift in societal expectations in the workplace, including how companies conduct themselves in relation to environmental and social issues. It is therefore increasingly important that companies show a strong commitment to ESG practices and reporting. Developing a diverse workforce could provide Alberta's food and beverage industry with a competitive advantage in recruitment and retention. As such, this strategy entails tracking and reporting on EDI in the food and beverage processing industry in Alberta. This will support marketing efforts aimed at youth and other EDGs.
Timing	This strategy should be initiated in the short- to medium-term (6 months to 3 years) and it should be maintained continuously.
Key Actions and Considerations	The following actions should be considered by industry as part of this strategy: • Involve leadership from both employers and employees in developing the processes and targets for the sector. • Set targets and measures to report on the progress toward representation of EDGs. This will show commitment to increasing representation and will increase accountability. The targets and measures should align with the goals already provided by government and other businesses in this industry. • Develop data collection methods and benchmarks. • Gather examples of companies that have effectively enhanced workforce diversity to demonstrate the tangible advantages. • Communicate EDI as part of marketing materials.
Resourcing	**Human Resourcing** • AFPA to lead development of reporting metrics and tracking of progress. **Financial Resourcing** • This can be funded through a successful grant application to a suitable funding organization.

Youth Recruitment and Retention

Rationale	Respondents mentioned the difficulty in attracting younger generations to the workforce as a particular challenge in this industry. As such, younger generations are a key target group in terms of both recruitment and retention. More specifically, the exposure of younger generations to this industry needs to be increased so they are aware of the career opportunities, as well as the entrepreneurship and innovation opportunities available. This exposure needs to happen when younger generations are beginning to choose a career path. This strategy aims to support both the recruitment and retention of youth in Alberta's food and beverage processing workforce through increasing opportunities to engage with high school students as well as possible collaborations with school boards, especially in rural areas.
Timing	This strategy should be initiated in the short term (6 to 12 months) and continued in the medium to long term (1 to 5 years) it should be maintained continuously.
Key Actions and Considerations	The following actions should be considered by industry as part of this strategy: • Continued research into the specific aspects of the workplace which are more relevant and preferable to younger generations. This research could also include reviewing the actions being taken by other organizations or jurisdictions. • Develop relevant information for inclusion in the K to 12 curriculum which highlights the food and beverage processing industry as a viable career path. • Promote increased exposure to specific trades in food and beverage processing in the K to 12 system through work experience opportunities. • Host regular, targeted, youth-focused events. • Promote partnerships between industry and post-secondary institutions and other training facilities to increase the exposure to this career path. • Review EMC's BC Youth in Manufacturing Initiative to assess the program's applicability to Alberta.
Resourcing	**Human Resourcing** • AFPA to promote the inclusion of relevant information into the K to12 curriculum with the provincial government and schools. • AFPA to coordinate a youth outreach committee with representation from employers. The committee would be responsible for developing an annual event or special program that exposes youth to careers in the food and beverage processing industry. **Financial Resourcing** • Industry-led funding or accessing existing grant funding for recruitment and retention.

7. Appendices

Appendix A: Legal Matters

The report is provided for information purposes and is intended for general guidance only. It should not be regarded as comprehensive or a substitute for personalized, investment or business advice.

We have relied upon the completeness, accuracy and fair presentation of all information and data obtained from survey respondents, interview participants, and public sources, believed to be reliable. The accuracy and reliability of the findings and opinions expressed in this study are conditional upon the completeness, accuracy and fair presentation of the information underlying them. As a result, we caution readers not to rely upon any findings or opinions for business or investment purposes and disclaim any liability to any party who relies upon them as such.

The findings and opinions expressed in this study constitute judgments as of the date of the study and are subject to change without notice. MNP is under no obligation to advise of any change brought to its attention which would alter those findings or opinions.

The analysis contained in this report is based upon projections, founded on past events giving an expectation of certain future events. Future events are not guaranteed to follow past patterns and results may vary, even significantly. Accordingly, we express no assurance as to whether projections underlying the economic analysis will be achieved.

Appendix B: Primary Data Collection

This appendix includes a copy of the various data collection tools used throughout the project including interview guides and survey questions.

Key Informant Interviews

Name of Interviewee	
Role	
Company or Association Name	
Phone Number or Email	
Interview Date	

Introduction

The Alberta Food Processors Association (AFPA), in conjunction with other industry leaders, has engaged MNP LLP (MNP), a national consulting and accounting firm, to conduct a labour market assessment for the provincial food and beverage processing sector. An important part of this study is speaking with key stakeholders/representatives.

This initial set of questions (below) aims to identify gaps in existing information and gather input on potential focus areas and strategies. These questions focus on the sector and sub-sector level and are designed as such. Later in the project, there will be a second round of interviews, and those questions will focus more on the organizational level (i.e., details about your specific company).

About confidentiality

MNP will maintain the confidentiality of all information provided throughout the course of the interviews. Individual responses will not be shared with any other party and will not be available to external project stakeholders. The results will be reported in a summary format, with any identifying information of the respondent removed.

MNP is committed to maintaining the security, confidentiality, and accuracy of any personal information collected, including personal views and opinions related to the review. The MNP Privacy Policy can be viewed at www.mnp.ca/en/privacy-policy.

Interview Questions

Company Questions

1. Would you please begin by telling us about your organization's operation and role in Alberta's food and beverage processing sector? [Prompt: sub-sector and regions of the province you operate in]

2. How many employees work for your organization?

3. What is the typical distribution of employees at your organization by the following occupation categories?

Management	Supervisor & Inspector	Sales & Admin	Technical Specialist	Skilled Trades	General labour

4. Between 2019 and 2022, has your workforce changed in size or composition? Please explain.

Sector Questions

5. As a business in your sub-sector grows, how does its workforce grow? For example, how does the sales and marketing workforce grow relative to the production workforce? Are there thresholds at which specialized positions are added or brought in-house?

6. What type of innovations or technologies is the sector (or your particular sub-sector) looking at adopting?

a. What key factors influence the decision to invest in these innovations or technologies?

b. How will adopting these innovations or technologies affect the workforce in terms of:

The number of staff required	
Skill requirements	

7. How does the sector use the Temporary Foreign Worker Program (TFWP)?

a. What types of positions are filled through this Program? And what occupations do they hold?

b. Has the use of the TFWP been affected by the COVID-19 pandemic? Please explain.

8. How did COVID-19 and the associated health and safety requirements affect workforce requirements in the sector, and are those impacts still being felt?

Health and safety protocols	
Need for additional staff	

9. How do employers in the sector use the post-secondary system?

a. Are there opportunities to expand or improve the use of post-secondary institutions (PSIs)?

b. Are there any alternatives to PSIs?

10. In your opinion, what is the major challenge(s) facing the sector today and in the next 10 years? Do you foresee these challenges getting better or worse?

Today	
Next 10 years	

11. Would you like to share any final comments or thoughts with us?

THANK YOU FOR YOUR TIME!

Industry Interview Guide

Introduction

MNP LLP ("MNP), a national consulting and accounting firm, has been commissioned by the Alberta Food Processors Association (AFPA) to undertake a labour market assessment for the food and beverage processing industry in Alberta. The study will provide an evidence-based overview of general skills and labour market gaps, challenges and opportunities in the food and beverage processing sector. The research collected as part of this study will inform AFPA's efforts to build the competitive advantage of the food and beverage processing sector. Specifically, the study will:

- Evaluate the current state of the food and beverage processing industry in Alberta;
- Analyze the current labour market and create a workforce profile for the industry;
- Identify labour market trends to forecast demand and establish strategies to address challenges;
- Identify skills, certification and training requirements by occupations;
- Develop diversity and inclusion initiatives;
- Identify technological trends; and
- Provide a series of recommendations including priority strategies.

As part of this study, MNP is interviewing key stakeholders to identify strategies for workforce development.

About confidentiality

MNP will maintain the confidentiality of all information provided throughout the course of the interviews. Individual responses will not be shared with any other party and will not be available to external project stakeholders. The results will be reported in a summary format, with any identifying information of the respondent removed.

MNP is committed to maintaining the security, confidentiality and accuracy of any personal information collected, including personal views and opinions related to the review. The MNP Privacy Policy can be viewed at www.mnp.ca/en/privacy-policy.

Interviewee Information

The section is for classification purposes and will be completed before the interviews.

Name and Title:	
Organization Name:	
Phone Number or Email:	
Date:	

Background

1. Would you please begin by telling us about your organization's operation and its role in the food and beverage processing industry in Alberta? [Prompt: sub-sector and regions you operate in]

Workforce Composition

2. How many employees work for your organization?

3. Between 2019 and 2022 has your workforce changed in size or composition? Please explain.

4. As a business in your sub-sector grows, how does its workforce grow? For example, how does the sales and marketing workforce grow relative to the production workforce? Are there thresholds at which specialized positions are added or brought in-house?

Growth

5. What are your expectations for business growth over the next three to five years (2024 to 2028)?

Revenues will decrease	Revenues will be similar to the previous 12 months	Revenues will increase moderately	Revenues will increase significantly

6. Looking ahead, how do you think the composition of your workforce will change (i.e., 3 years, 5 years, 10 years)? [Prompt: considering the technologies and growth discussed above]

Management	
Supervisor & Inspector	
Sales & Admin	
Technical Specialist	
Skilled Trades	
General Labour	

Access to Labour

7. How many positions have you had to fill in the past?

12 months	24 months

8. What positions are you most commonly hiring for?

Management	
Supervisor & Inspector	
Sales & Admin	
Technical Specialist	
Skilled Trades	
General Labour	

   a. What positions have been the most difficult to fill? Please explain.

9. What is the primary reason for hiring at the moment? (business expanded, staff turnover, seasonal, etc.)

Technology

10. Over the next five to ten years, what types of innovations or technologies do you anticipate will be implemented in your organization? If you are not planning any (major) adoptions, why not?

    a. What are the key factors influencing the decision to make investments in these innovations or technologies?

    b. What impact do you anticipate these technologies will have on the number of workers you require, the compositions of your workforce and the skill level of those workers?

Skills and Training

11. In your opinion, how does the current skill set of the workforce compare to the required skill set? Please explain.

    a. [Ask if the gap between current skill set and required skill set is significant] Is the available educational programming sufficient in Alberta? If not, what gaps in programming are there?

12. How will the skills, competencies and training of key occupations in your business change in the coming years? [Prompt: in the face of technology, diversity and generational change, etc.]

13. What suggestions do you have to enhance the post-secondary training system?

Immigration Programs

14. Does your company use immigration programs to hire workers (i.e., Temporary Foreign Worker Program)? If yes, what programs does it use? (e.g., TFWP, International Mobility Program (IMP), Provincial Nomination Program – Alberta Advantage Immigration Program, Express Entry Permanent Residency (for skilled workers), Rural Renewal Program, etc.)

a. [Ask if yes to Q14] What positions does your company fill through immigration programs?

Management	
Supervisor and inspector	
Sales and administration	
Technical specialists	
Skilled trades	
General labour	

b. [Ask if yes to Q14] Has your use of the immigration programs been affected by the COVID-19 pandemic? Please explain.

c. [Ask if no to Q14] Why not and do you anticipate using immigration programs in the future?

Workforce Diversity

15. Does your organization actively recruit members of equity-deserving groups?

a. [Ask if yes to Q15] If yes:

What has your experience been?	
Please describe the strategies and initiatives used by your company to recruit these equity deserving groups?	

b. [Ask if no to Q15] If no:

Is there any particular reason why not?	

16. What opportunities and/or challenges are there when it comes to the recruitment of equity-deserving groups?

Opportunities	
Challenges	

Closing

17. In your opinion, what is(are) the major challenge(s) facing the industry today and in the next 10 years? Do you foresee these challenges getting better or worse?

Today	
Next 10 years	

18. Have you considered making any changes to the way your company/organization operates (i.e., processes, methods, automation) as a result of labour challenges?

19. Are you familiar with AFPA's Food Futures Student Wage Subsidy Program?

If yes, have you applied?	
If no, Why not and what changes would you like to see made to the program to better benefit your business?	

20. Where would you most like AFPA to focus its efforts when it comes to workforce development? Please select the top 3 factors.

Position	Rank
Skill development	
Education and Training	
Diversity and inclusion	
Immigration programming	
Workforce recruitment	
Workforce retention	
Emerging technology and technology adoption	
Other	

21. Would you like to share any final comments or thoughts with us?

THANK YOU FOR YOUR TIME!

Interview Guide - Post-Secondary Institutions

Introduction

MNP LLP ("MNP), a national consulting and accounting firm, has been commissioned by the Alberta Food Processors Association (AFPA) to undertake a labour market assessment for the food and beverage processing industry in Alberta. The study will provide an evidence-based overview of general skills and labour market gaps, challenges and opportunities in the food and beverage processing sector. The research collected as part of this study will inform AFPA's efforts to build the competitive advantage of the food and beverage processing sector. Specifically, the study will:

- Evaluate the current state of the food and beverage processing industry in Alberta;
- Analyze the current labour market and create a workforce profile for the industry;
- Identify labour market trends to forecast demand and establish strategies to address challenges;
- Identify skills, certification and training requirements by occupations;
- Identify technological trends; and
- Provide a series of recommendations including priority strategies.

As part of this study, MNP is interviewing key stakeholders, including post-secondary institutions, to identify strategies for workforce development.

About confidentiality

MNP will maintain the confidentiality of all information provided throughout the course of the interviews. Individual responses will not be shared with any other party and will not be available to external project stakeholders. The results will be reported in a summary format, with any identifying information of the respondent removed.

MNP is committed to maintaining the security, confidentiality and accuracy of any personal information collected, including personal views and opinions related to the review. The MNP Privacy Policy can be viewed at www.mnp.ca/en/privacy-policy.

Interviewee Information

The section is for classification purposes and will be completed before the interviews.

Name and Title:	
Organization Name:	
Phone Number or Email:	
Date:	

Background

1. Would you tell us a bit about your role and how your organization is involved in the training and development of those employed in the food and beverage processing sector? [Prompt: programs for those looking to enter or upskill within the food and beverage processing sector]

Students

2. What is the background of students entering these programs?

3. What are the typical progression pathways graduating students from these programs follow?

4. What are the main barriers for students and workers to access training? What efforts has your organization made to lower barriers to training for workers?

Skills

5. From your perspective, how are the skill requirements for the food and beverage processing sector changing?

6. Are there specific skill gaps emerging within the workforce?

7. How does your organization identify changes in skill requirements and adapt training to address them? [Prompt: Is industry involved in the design and development of training programs your organization offers that are specific to the food and beverage processing sector? If so, how?]

8. Do you have partnerships with industry to provide apprenticeships, internships etc.? Please explain.

9. Do you provide courses related to upskilling and reskilling within the food and beverage sector? Please explain.

10. What programming gaps are you aware of across the Alberta post-secondary system for the food and beverage sector (i.e., any occupations for which no courses exits for)? (e.g., pasteurization)

11. In your opinion how could programming gaps for specialized skills be filled?

Technology

12. What are the key technological trends impacting the skill requirements for the food and beverage processing sector in Alberta? How would you expect training to be affected by these?

13. Would you please describe how you see the adoption of technology changing future skill requirements?

14. What are the key technological trends impacting the delivery of training? Please explain.

15. Has your organization employed technology to lower barriers to training? Please explain.

Closing

16. In your opinion, where are the opportunities to enhance the training for the food and beverage sector through the post-secondary system? Please explain.

17. Would you like to share any final comments or thoughts with us?

THANK YOU FOR YOUR TIME!

Interview Guide – Under-Represented Groups

Introduction

MNP LLP ("MNP), a national consulting and accounting firm, has been commissioned by the Alberta Food Processors Association (AFPA) to undertake a labour market assessment for the food and beverage processing industry in Alberta. The study will provide an evidence-based overview of general skills and labour market gaps, challenges and opportunities in the food and beverage processing sector. The research collected as part of this study will inform AFPA's efforts to build the competitive advantage of the food and beverage processing sector. Specifically, the study will:

- Evaluate the current state of the food and beverage processing industry in Alberta;
- Analyze the current labour market and create a workforce profile for the industry;
- Identify labour market trends to forecast demand and establish strategies to address challenges;
- Develop diversity and inclusion initiatives;
- Identify technological trends; and
- Provide a series of recommendations including priority strategies.

As part of this study, MNP is interviewing key stakeholders to identify strategies for workforce development.

About confidentiality

MNP will maintain the confidentiality of all information provided throughout the course of the interviews. Individual responses will not be shared with any other party and will not be available to external project stakeholders. The results will be reported in a summary format, with any identifying information of the respondent removed.

MNP is committed to maintaining the security, confidentiality and accuracy of any personal information collected, including personal views and opinions related to the review. The MNP Privacy Policy can be viewed at www.mnp.ca/en/privacy-policy.

Interviewee Information

The section is for classification purposes and will be completed before the interviews.

Name and Title:	
Organization Name:	
Phone Number or Email:	
Date:	

Background

1. Would you tell us a bit about your role and your organization?

2. How is your organization involved with the food and beverage processing sector in Alberta?

Trends

3. [Ask if involved with the sector (i.e., question 2)] What trends are you seeing when it comes to the participation of [INSERT GROUP] in the food and beverage processing sector workforce? [Prompt: Or attraction of]

4. [Ask if involved with the sector (i.e., question 2)] What trends are you seeing when it comes to the retention of [INSERT GROUP] in the food and beverage processing sector workforce?

5. [Ask if involved with the sector (i.e., question 2)] What technological trends are impacting [INSERT GROUP] in the food and beverage processing sector workforce? How will technology change the work for [INSERT GROUP]? [Prompt: Will technology allow for greater participation in the food and beverage processing workforce? Will technology reduce barriers? If so, how?]

Barriers

6. What barriers exist for [INSERT GROUP] looking to enter or work with the food and beverage processing sector workforce?

7. What are some of the barriers for [INSERT GROUP] to access training specific to the food and beverage processing sector?

Strategies and Initiatives

8. Would you please describe, in detail, the strategies and initiatives used by your organization to increase the participation of [INSERT GROUP] in the food and beverage processing sector workforce?

    a. What were the outcomes of the initiatives?

    b. What were the lessons learned from the initiatives?

9. Are you aware of any other industry-wide strategies or initiatives targeting the participation of [INSERT GROUP] in the food and beverage processing sector workforce? If yes, would you please describe these strategies?

10. What do you believe is needed for the food and beverage processing sector to continue to attract and retain [INSERT GROUP]?

11. What supports are required to increase the participation of [INSERT GROUP]?

Closing

12. Would you like to share any final comments or thoughts with us?

THANK YOU FOR YOUR TIME!

Online Survey Guide

Strategies for Success: People, Pathways and Possibilities

Introduction

We, the Alberta Food Processors Association (AFPA), recognize that a labour market study is nothing new. By asking you to participate in this survey, we aim to generate a meaningful outcome from the final report, which we hope will have a direct impact on your business. This will likely come in the form of future funding requests based on the results and findings of the current survey. The more details we provide around the direct needs and challenges facing our industry, the better positioned we will be to present solutions to address them. We appreciate you taking the time to complete this survey and look forward to your input.

We have partnered with MNP LLP (MNP), a national consulting and accounting firm, to run this survey. If you have questions or difficulties regarding the survey tool, please contact Elina Riyanova, MNP, at elina.riyanova@mnp.ca. If you have any questions regarding this study, please contact Meghan Rennick at meghan@afpa.com.

What we need from you?

- 15 - 20 minutes of your time to complete the survey to share your perspectives and insights with us.
- Please ensure that only one survey is completed per organization.

Who should complete this survey?

An Owner, President, Chief Executive Officer, General Manager, or someone familiar with your company's human resources and challenges within your Alberta food and beverage processing operations.

If you need to stop the survey partway through (to consult with others in your organization) and complete it later, please follow the instructions at the bottom of each page.

What about confidentiality?

All collected information will be treated as confidential and presented in summary format only. MNP will not share individual responses with any other business or organization.

Take the Survey

BACKGROUND QUESTIONS

1. **[Ask all respondents] What is the name of your organization?** *(This helps us to eliminate any duplicate submissions)*

2. **[Ask all respondents] Which of the following categories best describes your company's products?**
   - ☐ **Animal food manufacturing**
     This includes the manufacturing of food and feed for animals, including pets.
   - ☐ **Grain and oilseed milling**
     This includes the milling of grains and oilseeds, refining and blending fats and oils, and making breakfast cereal products.
   - ☐ **Sugar and confectionery product manufacturing**
     This includes the manufacturing of sugar and confectionery products.
   - ☐ **Fruit and vegetable preserving and specialty food manufacturing**
     This includes the manufacturing of frozen fruits and vegetables, frozen entrées and side dishes of several ingredients except seafood, and fruits and vegetables preserved by pickling, canning, dehydrating and similar processes.
   - ☐ **Dairy product manufacturing**
     This includes the manufacturing of dairy products including substitutes.
   - ☐ **Meat product manufacturing**
     This includes the manufacturing of meat products.
   - ☐ **Bakeries and tortilla manufacturing**
     This includes the manufacturing of bakery products, except cookies and crackers. Establishments classified in this industry may sell to commercial or retail customers, for consumption outside the premises.
   - ☐ **Beverage product manufacturing**
     This includes the manufacturing of beverages products
   - ☐ **Other food product manufacturing**
     This includes other industry groups, mainly in the manufacturing of food (e.g., snack food, coffee, tea, concentrates, syrups, condiments, and spices and other miscellaneous food products).
   - ☐ **Other** (please specify): _____

3. **[Ask all respondents] What region of the province is your company primarily based?**
   - ☐ Lethbridge-Medicine Hat
   - ☐ Camrose-Drumheller
   - ☐ Calgary
   - ☐ Banff-Jasper-Rocky Mountain House
   - ☐ Red Deer

- ☐ Edmonton
- ☐ Athabasca-Grande Prairie-Peace River
- ☐ Wood Buffalo-Cold Lake

4. **[Ask all respondents] Approximately how many full-time, part-time, and seasonal/casual staff work at your company/organization on an annual basis (including yourself and any family members who work there)?**

Full-time		*[numeric field]*
Part-time		*[numeric field]*
Seasonal/casual		*[numeric field]*
Other (please specify):		*[numeric field]*

5. **[Ask all respondents]** What is the typical distribution of employees at your company by the following occupation categories? *Provide percentages that sum up to 100%.*

Management	Supervisor & Inspector	Sales & Admin	Technical Specialist	Skilled Trades	General labour

6. **[Ask all respondents] Where would you <u>most</u> like AFPA to focus its efforts when it comes to workforce development?** *Please select the top 3 factors.*

- ☐ Skill development
- ☐ Education and training
- ☐ Diversity and inclusion
- ☐ Immigration programming
- ☐ Workforce recruitment
- ☐ Workforce retention
- ☐ Emerging technology and technology adoption
- ☐ Other (please specify): _____

TECHNOLOGY

7. **[Ask all respondents] What types of advanced technology has your company adopted?** *Select all that apply.*

Artificial intelligence and big data

- ☐ Artificial intelligence
- ☐ Data and analytics
- ☐ Design or information control technologies
- ☐ Electronic information systems
- ☐ Material handling, supply chain or logistics technologies
- ☐ Other (please specify): _____

Robotic and automation technologies

- ☐ Connected and/or autonomous vehicles
- ☐ Processing or fabrication technologies
- ☐ Robotics
- ☐ Other (please specify): _____

Digital Productivity Tools

- ☐ Cloud solutions (e.g., Microsoft 365, Google Cloud, Dropbox, etc.)
- ☐ Collaboration tools (e.g., Zoom, Slack, Microsoft Teams etc.)
- ☐ Security software tools (e.g., anti-virus, anti-spyware, firewalls, etc.)
- ☐ Software or databases (for purposes other than telework or online sales)
- ☐ Other (please specify): _____

Other technologies

- ☐ Biotechnology and bioinformatics
- ☐ Drones
- ☐ GPS technology
- ☐ Integration of the Internet of Things/sensors
- ☐ Virtual and Augmented Reality
- ☐ Other (please specify): _____

8. **[If selected a robotic or automation technology] Robotic/automation technologies reduce the number of workers we need for specific tasks and allows us redeploy people to other tasks.**

- ☐ Strongly agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ Don't know

[If disagree or strongly disagree] **Please explain.**

[If selected a robotic or automation technology] Robotic/automation technologies mean we need to retrain our staff members.

- ☐ Strongly agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ Don't know

[If disagree or strongly disagree] **Please explain.**

[If selected artificial intelligence and big data] Artificial intelligence/big data have created new positions within our organization

- ☐ Strongly agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ Don't know

[If disagree or strongly disagree] **Please explain.**

[If selected artificial intelligence and big data] Artificial intelligence/big data technologies mean we need to retrain our staff members.

- ☐ Strongly agree
- ☐ Agree
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ Don't know

[If disagree or strongly disagree] **Please explain.**

9. **[Ask all respondents] What proportion of your manufacturing is automated?**

- ☐ Less than 20%
- ☐ Between 21 and 50%
- ☐ Between 51 and 70%
- ☐ Between 71 and 90%
- ☐ More than 90%

[If less than 50%] Technology adoption has been slow in the food processing industry. What challenges does your company face when adopting technologies?

- ☐ Cost
- ☐ Access to equipment
- ☐ Lack of knowledge to make an informed purchase
- ☐ Access to skilled labour to operate technology(s)
- ☐ No relevant technologies available
- ☐ Regulatory barriers
- ☐ Lack of infrastructure (i.e., connectivity)
- ☐ Resistance to change
- ☐ Sufficient volume
- ☐ Other (please specify): _____

10. **[Ask all respondents] Is the Alberta post-secondary training system adequate to meet industry needs?**

- ☐ Very adequate
- ☐ Adequate
- ☐ Inadequate
- ☐ Very inadequate
- ☐ Don't know

11. **[Ask all respondents] What suggestions do you have to enhance the post-secondary training system?**

HR CAPACITY

12. **[Ask all respondents] What HR capacity does your company have?**

- ☐ We have more than 5 full-time HR staff members
- ☐ We have between 2-5 full-time HR staff members
- ☐ We have 1 full-time HR staff member

- ☐ We have 1 staff member who dedicates 50% of their time to HR work
- ☐ We have 1 staff member who dedicates 25% of their time to HR work
- ☐ Other (please specify): _____

13. **[Ask all respondents] What benefits does your company offer?**

- ☐ Extended health, dental and drug plans
- ☐ Paid leaves (e.g., sick, family)
- ☐ RRSP matching
- ☐ Pension plans
- ☐ Tuition reimbursements
- ☐ Other (please specify): _____
- ☐ None of the above

[If answered in the affirmative to Q13] In your experience, what impact does offering additional benefits have on:

Recruitment: _____

Retention: _____

14. **[Ask all respondents] What factors influence attraction?** *Please select the top 3 factors.*

- ☐ Wages and salaries
- ☐ Personal performance bonuses
- ☐ Extended health, dental and drug plans
- ☐ Paid leaves (e.g., sick, family)
- ☐ Workplace culture
- ☐ Work flexibility
- ☐ Job fulfilment
- ☐ Growth opportunities
- ☐ Job security
- ☐ Tuition reimbursement
- ☐ Other (please specify): _____

15. **[Ask all respondents] What factors influence retention?** *Please select the top 3 factors.*

- ☐ Wages and salaries
- ☐ Personal performance bonuses
- ☐ Extended health, dental and drug plans
- ☐ Paid leaves (e.g., sick, family)
- ☐ Workplace culture
- ☐ Work flexibility
- ☐ Job fulfilment
- ☐ Growth opportunities
- ☐ Job security

- ☐ Tuition reimbursement
- ☐ Other (please specify): _____

16. **[Ask all respondents] How would you describe the perception of workplace culture in your company?**

DIVERSITY, EQUITY AND INCLUSION

17. **[Ask all respondents] Approximately what proportion of your workforce is comprised of the following groups?** *Please provide percentages for your answers.*

Women	%	*[numeric field]*
New Canadians (in Canada since 2018)	%	*[numeric field]*
Indigenous Peoples (First Nations, Metis, Inuit)	%	*[numeric field]*
Visible Minority/Racialized Persons	%	*[numeric field]*
Persons with Disabilities	%	*[numeric field]*
Individuals under 30 Years of Age	%	*[numeric field]*
Individuals over 55 Years of Age	%	*[numeric field]*

18. **[Ask all respondents] Which of the following groups do you <u>actively</u> recruit?** *Select all that apply.*

Women	%	*[numeric field]*
New Canadians (in Canada since 2018)	%	*[numeric field]*
Indigenous Peoples (First Nations, Metis, Inuit)	%	*[numeric field]*
Visible Minority/Racialized Persons	%	*[numeric field]*
Persons with Disabilities	%	*[numeric field]*
Individuals under 30 Years of Age	%	*[numeric field]*
Individuals over 55 Years of Age	%	*[numeric field]*

[If answered in the affirmative to Q17] Please describe the strategies and initiatives used by your company to recruit these equity-seeking groups?

19. **[Ask all respondents] What barriers or challenges do you face with respect to the recruitment of equity-seeking groups?**

IMMIGRATION PROGRAMS

20. **[Ask all respondents] Does your company use immigration programs to hire workers?**

- ☐ Yes
- ☐ No

[If answered no to Q20] Why not? *Please select the most applicable answer.*

- ☐ The local market provides a sufficient supply of labour
- ☐ Do not have sufficient human resource capacity to support using a Program(s)
- ☐ Exact information on programming and how to use it is hard to find
- ☐ It would require the use of an external immigration consultants
- ☐ Legal risks if found not to be compliant with rules and regulations of the Program(s)
- ☐ Program restrictions and quotas
- ☐ Cost
- ☐ Other (please specify): _____

[If answered no to Q20] Do you anticipate using the Program in the future?

- ☐ Yes
- ☐ No
- ☐ It depends

[If answered yes to Q20] Which immigration program(s) do you use?

- ☐ Temporary Foreign Worker Program
- ☐ International Mobility Program (IMP) *(Allows Canadian employers to hire foreign workers without an LMIA and includes employer-specific work permit, open work permit such as working holiday visas)*
- ☐ Provincial Nomination Program - Alberta Advantage Immigration Program
- ☐ Express Entry Permanent Residency *(for skilled workers)*
- ☐ Rural Renewal Program
- ☐ Other (please specify): _____

[If yes to Q20] What positions does your company fill through immigration programs? *Select all that apply.*

- ☐ Management
- ☐ Supervisor and Inspector

- ☐ Sales and Administration
- ☐ Technical Specialists
- ☐ Skilled Trades
- ☐ General Labour

[Ask if selected management] Which management positions do you fill through immigration programs?

- ☐ Facility operation and maintenance managers
- ☐ Financial managers
- ☐ Human resource managers
- ☐ IT Managers
- ☐ Manufacturing managers *(including food processing plant manager, quality-control services manager, food and beverage production manager, operations manager, logistics manager)*
- ☐ Purchasing managers
- ☐ Quality assurance managers
- ☐ Retail and wholesale trade managers
- ☐ Sustainability managers
- ☐ Other administrative service managers *(including inventory control manager, material control manager)*
- ☐ Other (please specify): _____

[Ask if selected supervisor and inspector] Which supervisor and inspector positions do you fill through immigration programs?

- ☐ Health and safety supervisor
- ☐ Supervisors, food and beverage processing
- ☐ Testers and graders, food and beverage processing
- ☐ Other (please specify): _____

[Ask if selected sales and administration] Which sales and administration positions do you fill through immigration programs?

- ☐ Accounting technicians and bookkeepers
- ☐ General office support workers
- ☐ Human resource and recruitment officers
- ☐ Payroll administrators
- ☐ Professional occupations in advertising, marketing and public relations
- ☐ Purchasing and inventory control workers
- ☐ Sales and account representatives - wholesale trade (non-technical)
- ☐ Other (please specify): _____

[Ask if selected technical specialist positions] Which technical specialist positions do you fill through immigration programs?

- ☐ Biologists and related scientists *(e.g., food scientists, dairy scientist, food bacteriologist, food product scientist, food research scientist, poultry scientist)*

- ☐ Chemical engineers
- ☐ Chemists (e.g., food chemists)
- ☐ Electrical and electronics engineers
- ☐ Industrial and manufacturing engineers
- ☐ Industrial engineering and manufacturing technologists and technicians
- ☐ Mechanical engineers
- ☐ Software engineers and designers
- ☐ Other professional engineers *(e.g., food processing engineer, food technology engineer, agro-processing engineer, dairy plant engineer)*
- ☐ Other (please specify): _____

[Ask if selected skilled trades] Which skilled trade positions do you fill through immigration programs?

- ☐ Boilermakers
- ☐ Construction millwrights and industrial mechanics *(e.g., dairy equipment repairer, maintenance mechanic, bakery machinery mechanic)*
- ☐ Industrial electricians
- ☐ Refrigeration and air conditioning mechanics
- ☐ Welders and related machine operators
- ☐ Other (please specify): _____

[Ask if selected general labour positions] Which general labour positions do you fill through immigration programs?

- ☐ Bakers
- ☐ Brewers and distillers
- ☐ General labourers in food and beverage processing
- ☐ Industrial butchers and meat cutters, poultry preparers and related workers
- ☐ Janitors, caretakers and building superintendents
- ☐ Material Handlers *(e.g., forklift operator, warehouseperson, truck loader, packer, power truck driver, pallet loader, etc.)*
- ☐ Process control and machine operators, food and beverage processing
- ☐ Shipping and receiving
- ☐ Transport truck drivers
- ☐ Other trades helpers and labourers
- ☐ Other (please specify): _____

CLOSING

21. **[Ask all respondents] In your opinion, what are the major challenges facing the industry today and in the next 10 years?**

Today:
Next 10 years:

22. **[Ask all respondents]** Are you familiar with AFPA's Food Futures Student Wage Subsidy Program?

- ☐ Yes
- ☐ No

[Ask if answered yes] Have you applied?

- ☐ Yes
- ☐ No

[Ask if answered no] Why not and what changes would you like to see made to the program to better benefit your business?

23. **[Ask all respondents] Would you be interested in participating in a one-on-one virtual interview as part of this study? (It would build on the material of this survey.)**

- ☐ Yes
- ☐ No

[Ask if answered yes] Please provide the best email address to reach you at.

24. **[Ask all respondents] Do you have any other comments that you would like to share with us?**

Thank you for your time and participation in this survey!

Appendix C: Occupation Descriptions

Table C.1: Alberta's Food and Beverage Processing Industry Occupational Categories and Description

Occupation	Description
Management	• Manufacturing managers (e.g., food processing plant manager, food and beverage production manager, operations manager, logistics manager) • Purchasing, financial, quality assurance, human resource, IT, and sustainability managers • Facility operation and maintenance, and retail and wholesale trade managers • Other administrative service managers (e.g., inventory control manager, material control manager)
Supervisor and inspector	• Supervisors, food and beverage processing • Testers and graders, food and beverage processing • Health and safety supervisor
Sales and administration	• Human resource and recruitment officers • Sales and account representatives – wholesale trade (non-technical) • Professional occupations in advertising, marketing and public relations • Accounting technicians and bookkeepers • Payroll administrators • General office support workers • Purchasing and inventory control workers
Technical specialist	• Biologists and related scientists (e.g., dairy scientist, food bacteriologist, food product scientist, food research scientist, food scientist, poultry scientist) • Other professional engineers (e.g., food processing engineer, food technology engineer, agro-processing engineer, dairy plant engineer) • Industrial and manufacturing, mechanical, and chemical engineers • Industrial engineering and manufacturing technologists and technicians • Electrical and electronics engineers • Software engineers and designers • Chemists (e.g., food chemists)
Skilled trades	• Bakers • Boilermakers • Construction millwrights and industrial mechanics (e.g., dairy equipment repairer, maintenance mechanic, bakery machinery mechanic) • Industrial electricians • Refrigeration and air conditioning mechanics • Welders and related machine operators
General labour	• General labourers in food and beverage processing • Industrial butchers and meat cutters, poultry preparers and related workers • Material Handlers (e.g., forklift operator, warehouseperson, truck loader, packer, power truck driver, pallet loader, etc.) • Process control and machine operators, food and beverage processing • Transport truck drivers • Other trades helpers and labourers • Brewers and distillers

	• Shipping and receiving • Janitors, caretakers and building superintendents

Appendix D: Project Steering Committee

The project steering committee members are listed in the following table.

Name	Position	Organization
Stavros Karlos	Executive Director	Alberta Distilleries Association
Louis Bontorin	Co-owner	Calgary Italian Bakery Ltd.
Susan Olson	Human Resources	Old Dutch Foods
Edna Zapansa	Food Safety Quality Assurance Manager	Siwin Foods
Rhonda Marano	Senior HR Manager	The Little Potato Company
Andrew Polturak	Partner	Sunrise Bakery
Debbie Lucas	Corporate Training Manager	Cavendish
Melanie Bjorklund	Health and Safety Manager	Maple Leaf Foods
Joel Cumberland	Director of Guest Experience	Bearhill
Jean Pierre Girous	President	EMC
Raf Khan	Director, Manufacturing Initatives	EMC
Melody Pashko	General Manager	AFPA
Meghan Rennick	Project Manager	AFPA

Appendix E: About MNP

For over 60 years, MNP has proudly served and responded to the needs of clients in the public, private and not-for-profit sectors. Today, MNP is the fifth largest Chartered Professional Accountancy and business consulting firm in Canada and is the only major accounting and business consulting firm with its head office located in Western Canada. MNP has more than 117 locations and over 7,100 team members across the country. In Alberta, MNP has more than 1,300 team members located in 21 offices. We have over 240 partners in the province who support businesses ranging from small and medium enterprises to large public companies.

About MNP's Economics and Research Practice

Economic and industry studies are carried out by MNP's Economics and Research practice. The Economics and Research practice consists of a team of professionals that has a successful track record of assisting clients with a wide variety of financial and economic impact studies. Our work has encompassed a wide range of programs, industries, company operations and policy initiatives, and has helped clients with decision-making, communication of economic and financial contributions, documentation of the value of initiatives and activities, and development of public policy.

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