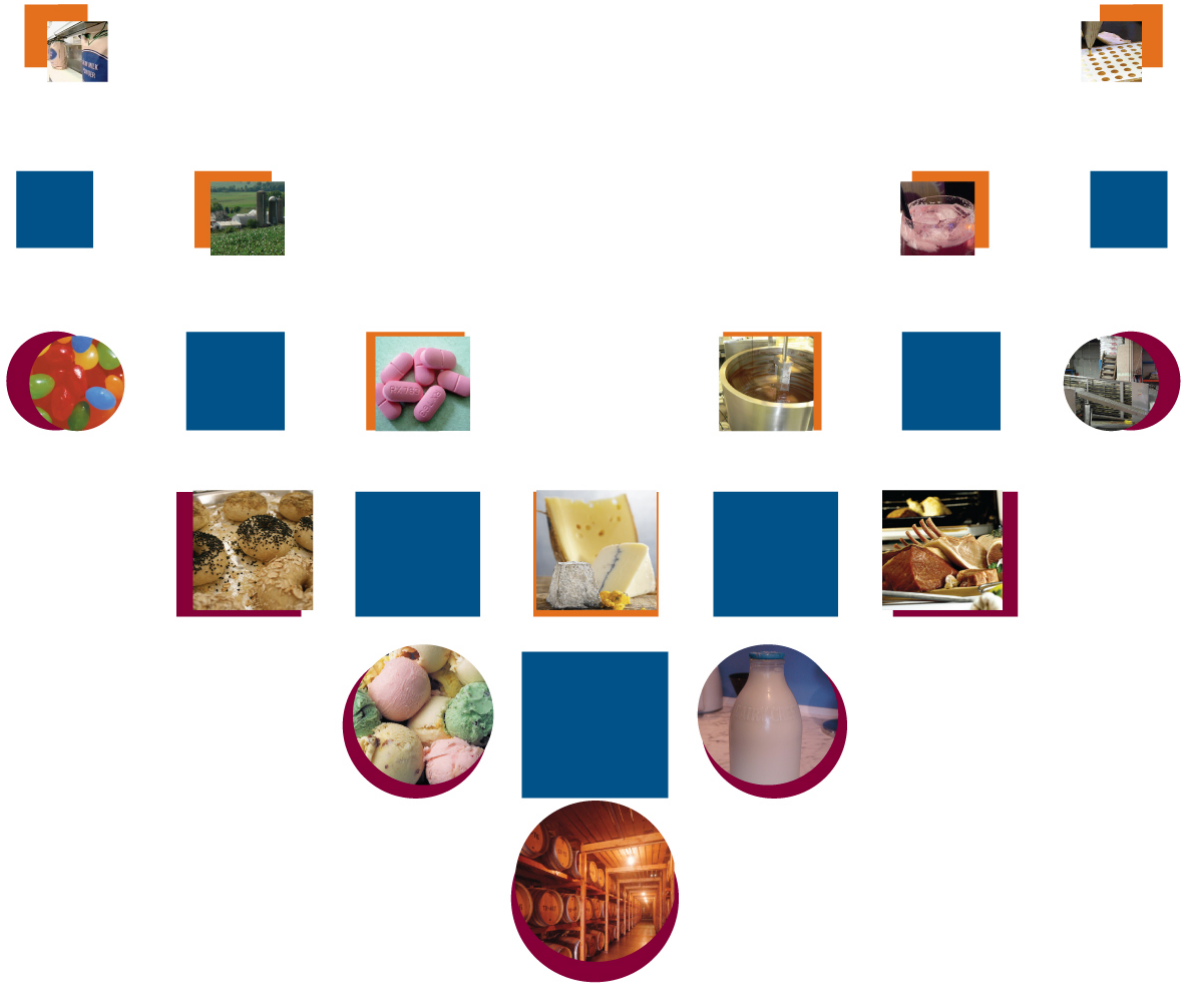


FOOD, BEVERAGE AND PHARMACEUTICAL INDUSTRIES SKILL NEEDS UPDATE

FEBRUARY 2009



VFITB
VICTORIAN FOOD INDUSTRY
TRAINING BOARD
Your independent voice



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Introduction

The Victorian Food Industry Training Board produces this report primarily from consultation with food processing, including meat processing, beverage and pharmaceutical companies.

The purpose of this report is to provide advice to Skills Victoria regarding major issues impacting on enterprises within the industry and how they will shape strategic directions for training development, delivery and resources.

It addresses the requirements of the Industry Skill Needs Report as outlined in the 2008-2011 Performance Agreement with the Victorian Skills Commission.

The information has been collated from the direct responses to the four key questions from selected industry forums, enterprises and associations and from research derived from key industry publications.

This report is an update of the Food Processing Industry Change Drivers and Issues for Skills Development, February 2008, report and should be considered in conjunction with that report.

As five major developments have arisen or intensified over the last twelve months, these have been dealt with individually. The key questions are answered sequentially for each development.

Key Questions:

- Question 1: Describe any major developments in key change drivers shaping your industry which have arisen or significantly intensified over the last 12 months.
- Question 2: Describe the responses being made by businesses and industry organisations to these developments.
- Question 3: Identify the emerging and critical skills implications of these developments and industry responses.
- Question 4: Identify the training demand and delivery consequences of addressing these skills needs.

Major Developments:

- Development 1: The need for skills to operate and maintain computer controlled food processing lines has intensified.
- Development 2: The need for Food Science and Technology knowledge and skills has increased across a broader range of workforce cohorts.
- Development 3: Skills needed to respond to world trend for improved animal welfare standards.
- Development 4: Meat Retailers require upskilling to meet new regulatory guidelines.
- Development 5: Skills to address environmental sustainability are becoming an immediate need.

Development 1

The need for skills to operate and maintain computer controlled food processing lines has intensified.

1. In the last 12 months industry has continued to restructure and create efficiencies by consolidating processing into fewer larger plants.
2. This has, and will continue to further accelerate the sophistication of manufacturing technology increasing the need for workers with skills in the operation and maintenance of computer controlled manufacturing also known as programmable logic controller (PLC) driven processing lines.

The *Food Processing Industry Change Drivers and Issues for Skills Development Report*, February 2008, states, "cost cutting, the production of a broader range of products and the uptake of new technology mean the **workforce is required to undertake a broader range of tasks**¹. ...and be able to deal with **technological change** that is so rapid as capital equipment is being updated every second or third year², rather than every four to five years as has been the case in the past."

Further skill needs consultation undertaken later in 2008 has shown this development to be increasingly significant across all regions in food, dairy and meat processing plants that are driven by PLC automated processing lines

3. Enterprises will require a different mix of skills for operators and tradespersons who perform maintenance tasks and line operators will need to be upskilled to diagnose and respond to product and process faults.
 - a. Consultation with food processing enterprises in recent months has found training of technical manufacturing maintenance persons in a mix of skills that combine fitting, mechanical and control systems is an increasingly important, and in some regions, urgent need.
 - b. Technically orientated line operators require underpinning knowledge and skills to be able to diagnose faults in line equipment, trouble shoot, and to undertake minor adjustments to process equipment including control and monitoring systems such as PLCs.
4. This will require upskilling for existing workers. Certificate 3 and 4 level skills are required for:
 - operators; and
 - apprenticeship and post apprenticeship training for fitters and turners.

We believe operator skills will be addressed in the revision of FDF03 Food Processing Training Package and are advised that apprenticeship and post apprenticeship skills are in the Engineering Training Package.

Woven into this will be the need for recognition of prior learning and on the job training and assessment.

¹ Victorian Food Industry Training Board, 2008, 'Food Processing Industry Change Drivers and Issues for Skills Development', p.19

² Australian Industry Group, 2006, 'Manufacturing Futures, Achieving Global Fitness', p.57

A major part of the problem is that training products and services are not aligning with industry needs as the training is not being delivered into the 'one' person.

The basis and breadth of industry opinion on this issue can also be evidenced by the Manufacturing and Engineering Skills Advisory Body's (MESAB) 2007 Change Drivers Report. Based on consultation undertaken in 2006, the report states, "modification of production plant and equipment such as adding computer based control systems...is changing labour skill requirements that results in operator skill gaps", and "skills to optimise, maintain and monitor the new technologies will need to be developed within existing workforces and through new entrant programs in the medium term."

The 2009 MESAB Industry Skill Needs Report Update cites the issue of maintenance fitters leaving the industry due to retirement as having critical implications.

Research needs to be undertaken to document the relevant skill gaps and to identify why this training need isn't being addressed.

Development 2

The need for Food Science and Technology knowledge and skills has increased across a broader range of workforce cohorts.

1. Due to shifts in economic conditions food processing companies are positioning themselves across a broader spectrum of the market. More Food processing companies are going through rapid change with a much more sophisticated approach to all levels of production.
2. Companies are:
 - diversifying their consumer goods;
 - responding rapidly to international market requirements;
 - improving quality for competitive advantage;
 - attempting to grow all markets to maintain profits; and
 - increasingly leveraging their technology across a wider variety of products.

Consequently employees need to take on broader and more complex roles.

3. Consultation with the dairy, confectionery and general food processing sectors indicates that as a consequence there are three groups in need of additional training:
 - a. new entrants to the industry who are entering with tertiary qualifications (for example, in engineering, chemical engineering or marketing) require short-term training to fully grasp the parameters of the food processing industry so they can be productive as soon as possible;
 - b. team leaders who have come through the Certificate IV and Diploma in Food Science and Technology now require additional training in management to undertake more advanced supervisory roles;
 - c. production employees require underpinning knowledge in food science and technology.
4. Emerging and critical skills implications of these developments.
 - a. Skill needs for new tertiary entrants at AQF level 7/8 include the knowledge and skills to become team leaders whose core function is product development.

This includes:

 - cross functional skills such as line set up, quality, safety, human resource management;
 - project management skills in innovation; and
 - specialist technical skills to operate across up to 3 functional areas.
 - b. Skill needs for team leaders at AQF level 7/8 may include:
 - product development (including product mass balances) and innovation;
 - packaging innovation;
 - product marketing and promotion;
 - quality assurance management;
 - management and leadership;
 - high risk auditing; and
 - modern manufacturing - lean/competitive manufacturing.

c. A more intense focus for production employees (line operators) on understanding functionality and reaction between plant and chemistry. This encompasses knowledge at AQF levels 3/4 in:

- microbiology;
- chemistry; and
- functionality.

To achieve this, upskilling is required for:

- production staff to AQF level 4/5 from the existing, state accredited, Diploma of Food Science and Technology; and
- operators in food science and technology units at AQF level 3/4. This may need to be addressed in the revision of the FDF03 Food Processing Training Package.

The industry requires rapid short-term training which lends itself to part-time and flexible delivery so that employees may maintain their job roles during training. "The food industry is going through rapid change with a much more sophisticated approach to all levels of production and a greater need to respond rapidly to international market requirements. In such a world the idea of static classroom based learning transmitting a fixed body of knowledge seems outdated."³

A scoping report undertaken by Skills Victoria has recommended the development of two new qualifications to meet the needs of new graduates entering the workforce and team leaders⁴.

The first is a vocational graduate certificate in food technology and management for the tertiary educated cohort of managers who require detailed industry knowledge along the lines proposed in point 4 a. There are suggestions that this might form part of a Vocational Graduate Diploma but additional developmental work would be required to determine whether this is appropriate. Development of a Vocational Graduate Certificate has a number of advantages in that it permits rapid delivery, allows for technical and abstract theoretical knowledge and can incorporate content from the existing qualifications.⁵

The second is a course in food technology supervision for Diploma in Food Science and Technology graduates to enable them to undertake more sophisticated supervisory roles. In Victoria this would be recognised as an RTO identified Skills Set⁶.

³ Scoping Report for Food Industry Training, February 2009

⁴ During the finalising of this report, SV confirmed that the Graduate Certificate in Food Technology will be developed as a State accredited course in 2009. The Food Technology Supervision (Skills Set) may be addressed in the revision of the FDF03 Food Processing Training Package.

⁵ Scoping Report for Food Industry Training, February 2009

⁶ *ibid*

Development 3

Skills needed to respond to world trend for improved animal welfare standards.

1. In the last 12 months the European Union has proposed a wide range of regulatory changes with regard to animal welfare, covering livestock transport, stunning and slaughter techniques as well as training requirements for processing staff. While the changes are not mandated for countries exporting to the EU it is expected that they will have arrangements that guarantee similar animal welfare outcomes.

In the USA regulatory authorities have increased their monitoring of animal welfare in processing works, following some animal welfare scandals in that country. This increased interest in animal welfare has extended to the regulators' review of countries exporting to the USA including Australia.

Similarly overseas and domestic customers (e.g. supermarket and fast food chains) are increasing their review of animal welfare at meat processing plants. They are requiring that plants clearly demonstrate that only trained staff are employed to handle, stun and slaughter livestock.

2. Thus what we are seeing is an increasing effort to mitigate risk in relation to animal welfare standards on the part of the regulator and large customers. Audits will enforce more stringent standards on meat processing companies.
3. In order to meet these increased requirements industry will need to maintain and enhance training programs in:
 - animal welfare management;
 - animal handling;
 - stunning;
 - slaughter.
4. The skill needs will be at AQF 2, 3 and 4 level and this training can be delivered on site for levels 2 and 3 units while the level 4 training can be delivered by mixed mode utilising existing training materials. These skills can be addressed through the Meat Processing Training Package.

Development 4

Meat Retailers require upskilling to meet new regulatory guidelines

1. There has been an increased prevalence of food borne illness caused by the presence of the listeria (*L. monocytogenes*) bacteria. This is particularly the case overseas. In some cases outbreaks have been caused by ready to eat meats such as smallgoods.
2. In response, the Victorian regulator, PrimeSafe, has introduced guidelines to ensure retail butchers “implement a listeria management system”. The guidelines are underpinned by the Australian Standard 4696:2007 and the Australian New Zealand Food Standards Code. Such a system controls the hazard through documented work instructions and testing procedures as well as training meat retail staff in the proper handling and storage of packaged, ready to eat meats.
3. These requirements, especially the product testing requirement, may force smaller retailers to stop producing ready to eat meats that are packaged. Regardless of the cost factor associated with testing, this development will probably mean that retail butchers will require additional skills in the area of smallgoods production. A specialist post trade skills set or course may need to be developed in the future.
4. The level of skill required is likely to be at AQF 3 and 4. The most likely delivery mode will be a mixed mode involving distance education and weekend workshops with on site skills and assessments.

The training need is likely to be between one and three units of competency with an average duration of 40 nominal hours.

New units of competence are scheduled to be developed later in 2009. Optional units will also be available in the Meat Processing (Meat Retailing) apprenticeship.

Development 5

Skills to address environmental sustainability are becoming an immediate need.

1. The recent media and policy profile given to climate change and greenhouse gas emissions appears to have had a profound effect on business.⁷ Increased reporting requirements from the Environmental Protection Authority (EPA), increased awareness in a competitive industry and consumer interest in environmental sustainability are driving a desire for more sustainable resource use.

The Emissions Trading Scheme (ETS) will be in place July 1st 2010. The scheme will be a 'cap and trade' scheme. That is, it will set an overall environmental cap by issuing a set number of permits, and allow entities to trade permits, thereby putting a price on carbon.

Although food processing companies see environmental sustainability as a significant and immediate issue, at this stage these developments have raised more questions than answers.

2. According to the AIG survey, *Environmental Sustainability and Industry*, undertaken late in 2007, only 10 % of companies said they were informed enough to manage risks associated with climate change. Enterprises are taking a harder look at where the energy is going and trying to more effectively measure and reduce use. A considerable number of companies are not yet ready to implement strategic organisation wide solutions, though it is anticipated that this will change, particularly over the next five years, to meet EPA covenants, compliance standards and the ETS.

Food processing companies are addressing environmental issues in a number of ways, including:

- converting to gas;
 - converting cellulose to energy;
 - developing cogeneration plants;
 - creating packaging that is re-usable, can be re-cycled and is bio-degradable, such as organic packaging materials; and
 - aligning culture within the organisation to implement sustainable procedures and work practices
3. New knowledge and skills are required by companies. These include:
 - basic skills to capture data on resource use so decisions can be informed;
 - knowing where energy is going, by measuring utilities and being able to undertake energy audits;
 - the collection and use of data to make improvements;
 - strategic business planning;
 - facilitating cultural change across the company; and
 - risk management including supply chain management.
 4. This requires training for all levels of the workforce including facilitation of cultural change. Training for environmentally sustainable practices will be increasingly required for:
 - operators at AQF level 2/3 to participate in environmentally sustainable work practices;

⁷ Australian Industry Group, 2007, *Environmental Sustainability and Industry*, p.24

- experienced operators with a technical and leadership role at AQF level 3/4 to implement and monitor environmentally sustainable work practices and
- employees likely to be taking responsibility for outcomes for policy, implementation and review at AQF level 4 to develop workplace policy and procedures for sustainability; and
- managers at AQF levels 7/8 in qualifications such as the Diploma of Sustainability and Graduate Certificate in Sustainability to achieve a strategic whole of business approach. The Diploma of Sustainability can be run as a dual qualification with others diplomas such as engineering.

The industry requires rapid short-term training which lends itself to part-time and flexible delivery so that employees may maintain their job roles during training. This will be ongoing and a combination of on and off the job.

The standards for sustainability mentioned above will be available in the revision of the Food Processing Training Package. Additional units that address the skill requirements of new and emerging concepts such as carbon trading are currently being developed by Manufacturing Skills Australia. AgriFood Skills Australia will need to decide what solution will best address this need for Food Processing companies in the revision and continuous improvement of the Food Processing Training Package.

Consultation

The basis for this report was consultation primarily conducted on site with a variety of people that included:

General Managers, Managing Directors, General Managers - Workforce Development, Training Managers, Plant Accountants, Export Managers, Human Resources Managers, Site Production Managers, Manufacturing Managers, Logistics Administrators, Production Development personal, Safety Health and Environment Managers, Quality Officers, Innovation and Commercialisation Managers, Retail Butchers and Bakers, including shop owners and apprentices, Engineers and Production Supervisors.

The companies where these people were consulted were:

- Kraft
- Tatura Milk
- Murray Goulburn Co operative (all sites)
- Nestle- confectionery (Cambellfield)
- Pfeiffer's Wines
- Brown Brothers Wines
- Nestle – Tongala Site - Dairy
- Retail Butchers
- Murray Goulburn Co-Op
- Don KR Castlemaine
- Fine Food Australia Exhibition
- Steggles
- Patties Pies
- Brendon's Meats
- Baker's Delight
- SPC Ardmona
- Nestle
- Heinz
- Cocoa Black
- Morris Wines
- Milawa Cheese
- Tatura – Milk
- Riverland Oil Seeds
- Frew's – Stawell
- Hardwicks- Kyneton
- Sunbeam Foods
- Prime Cut
- Mount Zero Olive Oil
- Cobram Meats
- Phillipa's

Industry organisations were also consulted. These included:

- Australian Industry Group
- Australian Meat Industry Council
- Australian Meat Industry Employees Union
- Australian Workers Union
- Baking Industry Association Victoria
- Food Technology Association of Australia
- Confectionery Manufacturers of Australasia
- Flour Millers' Council of Australia
- Liquor Hospitality Miscellaneous Union
- National Meat Industry Training Advisory Council
- National Unions of Workers
- Australian Manufacturing Workers Union

The following members of the VFITB Industry Advisory Committee were consulted as a group:

- Collin Ross Chair, Organiser, Australian Meat Industry Employees Union
- Michael Hedley Deputy Chair, National HR Manager, Simplot
- David Musgrove President, Baking Industry Association of Victoria
- Alison Forster Senior WR Adviser, Australian Industry Group
- Garry Higgins Executive Officer, Baking Industry Association of Victoria
- Greg Reiffel People & Systems Manager, Ferguson Plarre Bakehouses
- Brad Roberts Training and Development Manager, Ridley Agri Products
- Daniel Cox Human Resource Manager, Nestle
- Tom Hale Secretary, Food Division, Australian Manufacturing Workers Union

- Kristine Manser National Executive Officer/Federal Secretary, Dairy Industry Association of Australia

- Chris Parker Group Technical Baker, Product Development, Bakers Delight

- Geoff Yarnham Safety & Technical Training Manager, Swift Australia PL
- Kay Jurd Group Training Manager, Swift Australia PL (Southern)
- Peter Bush Secretary, Food Technology Association of Australia
- Adam Portelli Industrial Officer, The National Union of Workers
- Jane Delaney Murray Goulburn Cooperative
- Mani Iyer Dairy Australia
- Kristine Wilson Dairy Food Safety

The report was validated by sending it to all those consulted requesting feedback. Validation was extended from the Victorian Food Industry Training Board's Industry Advisory Committee (above) to other members including:

- Damian Sierakowski Work Safe
- Lyle Todd Coles
- Jan Shellew Heinz
- Trent Pawsey Fonterra
- Melissa Hillard Tatura Milk
- Andrew O'Hare Phillipa's
- Michael Plarre Ferguson Plarre Bakehouses
- Peter Bertolus SPC Ardmona
- Derek Duncan McCains
- Michael Lynch Mars
- Rachel Carlow Allied Mills
- Kevin Cottrill AMIC
- Amanda Porter Sigma
- Carolyne Zammit Berri Limited
- Charles Giarrusso M.C. Herd Pty Ltd
- Cheryl Disher National Foods
- David Markey Victorian Olive Council
- Gayle Taylor Brown Brothers
- Gisela Marven Baiada Poultry
- Jason Fraumano Tip Top Bakeries
- Lynne Evans Riverland Oilseeds
- Max McWilliam McWilliams Wine

- Steve Mantzaris Mantzaris Fisheries
- Novella Tribic Cambells
- Patten Bridge Murray Goulburn Cooperative Co. Ltd.
- Ron Mason Mascotech Services
- Vicki Hardwick Hardwick Meat Works
- Melinda Renowden Dons KR Castlemaine
- Bill Vucinic Dons KR Castlemaine
- Trish Hyde Confectionery Manufacturers of Australasia LTD
- Amanda Solly Murray Goulburn Co-operative Limited
- Kay Jurd SWIFT Australia
- Chris Jarrett Riverland
- Gary Beckham Pastamaster
- Graeme Lukey Flour Miller's Council of Australia
- Chris Pfeiffer Pfeiffer Wines
- David Morris Orlando Wines
- Mark Tandy Bega Cheese

Other enterprises were consulted at the following group meetings:

- MINTRAC's (National Meat Industry Training Advisory Council Limited)
 - Meat Inspectors and Quality Assurance Managers Network
 - Training Managers Network
 - Environment Network
- Sustainable Business Network – Central Victoria and the Goulburn Valley
- Goulburn Valley HR Network
- Murray Goulburn Co-operative's Training Managers Meeting
- Australian Meat Industry Council (Victorian Retail Butchers)
- William Angliss Industry Consultative Group for:
 - Baking
 - Food Science and technology
 - Meat Retail
- Food Technology Association of Australia
 - A survey was sent to members of the Food Technology Association of Australia and detail collated to provide advice on Food Science and Technology training needs.

Pharmaceutical companies haven't responded positively to being consulted for the Skill Needs Update Report as some provide training through an in house international program, and others their own on the job training. One reported that they use process manufacturing qualifications for their training.