



VICTORIAN DAIRY MANUFACTURING SECTOR

TRAINING NEEDS ANALYSIS

FINAL REPORT

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DAIRY MANUFACTURING SECTOR

**TRAINING NEEDS
ANALYSIS**

Training Needs Analysis Report



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Training Needs Analysis Report



1. Executive Summary

As part of the Dairy Food Safety Victoria Industry Skills and Training Program¹, DFSV has conducted a Training Needs Analysis (TNA).

This report outlines the process undertaken within the manufacturing sector of the Victorian dairy industry, and includes the results received from both the questionnaire and focus group sessions conducted by DFSV.

A great degree of interest in the subject of food safety training has been generated by the project. This has been evident in the participation by a majority of manufacturing licensees (71%) and various other industry parties in the manufacturing, education and government sectors.

The report highlights the need for an improvement in the quality of both the content and the delivery of food safety training currently available.

It indicates that there is a lack of suitable food safety training available that is relevant to the manufacturing sector, in particular to the dairy industry. Much of the available course content is based on retail operations.

Another issue that has been evident during the project are the differing needs of the smaller sized manufacturers and those of the larger multi-national dairy companies.

The recommendations at the conclusion of this report detail various actions aimed at providing support in different ways to those with the greatest need.

This project has been conducted by DFSV over the period May – August 2006.

The report will be circulated to all of the participants and other key stakeholders as identified in the project proposal².

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2. Background

In 2004, Dairy Food Safety Victoria (DFSV) investigated the causes of dairy food contaminations attributed to manufacturing staff training and competency.¹ The study was commissioned following the identification that between 30 and 40% of all dairy food contaminations (eg *Listeria monocytogenes*, *E. coli*, Salmonella) were attributed to a training and/or competency shortfall.

The study highlighted several gaps in the areas of:

- Availability and accessibility of relevant dairy food safety and hygiene training
- Limited food safety and hygiene training of key supervisory staff within the small to medium sized dairy manufacturers
- Inadequate in-house training in food safety and hygiene, whether performed by manufacturing staff or an external consultant
- Inadequate induction training for new and casual staff
- Maintenance of the Food Safety Program was frequently done by an external consultant, and therefore, there was limited understanding of the program by the manufacturing staff.

In August 2005, the number of dairy food incidents attributed to a staff training and/or competency issue remained at around 30%, indicating that in 12 months there had not been any significant improvement in this area.

As a result of the above investigations, the Food Safety and Policy Committee of the DFSV Board fully endorsed a proposal to develop a program to improve the dairy food safety skills of the Victorian dairy manufacturing sector.

This has been formally incorporated into DFSV's Annual Operating Plan for 2006-2007.

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3. Aims & Objectives

The training needs analysis aimed to identify:

- What skills and knowledge are required in order to meet industry standards³ in relation to food safety in the dairy manufacturing sector?
- What training is currently used to obtain these skills?
- What are the gaps between what is required and what exists?
- In which areas are there opportunities in regards to food safety training?
- What are potential or possible barriers to success? Eg. cultural, language, financial, access, time, resource barriers.
- What is the optimum format(s) for food safety training delivery?

The objectives were then to:

- Analyse the collected data.
- Prepare a report detailing findings, recommendations and conclusions.
- Communicate findings to the participants and stakeholders.
- Facilitate desired outcomes.

³All businesses holding a manufacturers' licence in Victoria are required to meet the relevant legislation. This includes maintaining a food safety program and ensuring "that persons employed at the premises can demonstrate competency in skills and knowledge in food safety and food hygiene matters in relevant activities undertaken in the job performed". (DFSV Code of Practice for Dairy Food Safety September 2002)

4. Methodology

4.1 *Questionnaire*

The following steps were used in the process of administering the training needs questionnaire:

- The survey questions were developed in line with the projects' aims and objectives.
- The questionnaire was designed and trialled internally. Feedback was also sought from the Food Safety Unit of the Department of Human Services.
- The questionnaire was then trialled externally with participants from two dairy manufacturing companies.
- The questionnaire was then modified and refined prior to distribution.
- A covering letter detailing the background and purpose of the project & questionnaire was mailed out to all target groups along with a copy of the questionnaire.
- Follow-up interviews were conducted in person or by telephone where necessary to retrieve and/or clarify responses.
- The results of the responses received form part of this report.
- Expressions of interest in participating in the focus group sessions were also sought via this questionnaire.

4.2 *Focus Groups*

As a follow up to the survey, two focus group sessions were organised, with a total of 15 attendees from industry. These were conducted as follows:

- Invitations were sent to each of the questionnaire respondents who had indicated a willingness to participate.
- A food industry training consultant was engaged to facilitate the sessions.
- The sessions were loosely divided into large companies (am) and small to medium sized enterprises (pm).
- The aim of these groups was to use the survey results as a basis and to gather further detail regarding the food safety training issues facing the dairy manufacturing sector.
- The structure of each session was designed to maximise the potential to achieve this aim. See Appendix 1 for the focus group session outline.

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5. Target Audience and Responses

There were 146 dairy manufacturing sites licensed with DFSV as at May 2006. Each of these was mailed a copy of the questionnaire. Responses were received from a large number (71%) of the population and form the basis of this report.

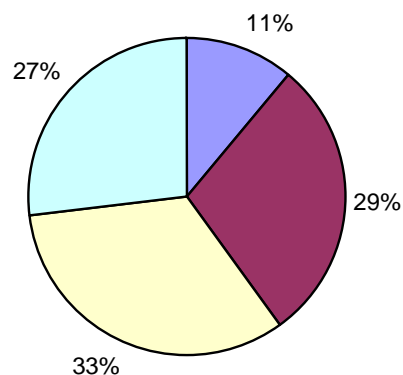
Within these companies, the following staff formed the target group:

- Senior managers/owners in small enterprises (<10 staff)
- Quality assurance and/or production supervisors in medium and larger companies
- Training managers in large organisations/companies
- Food safety consultants (external contractors engaged to oversee food safety) where appropriate

The quantity of information received has varied. In some cases, the responses have provided little detail, due to the nature of the company eg. An owner/operator with no employees. In other cases, larger companies have chosen to supply a group response that outlines the training situation across their company.

The graph below shows that there has been wide consultation within the four groups of company size. From past experience, we know that there are differences in the requirements and needs of each of these categories.

Response By Size of Company

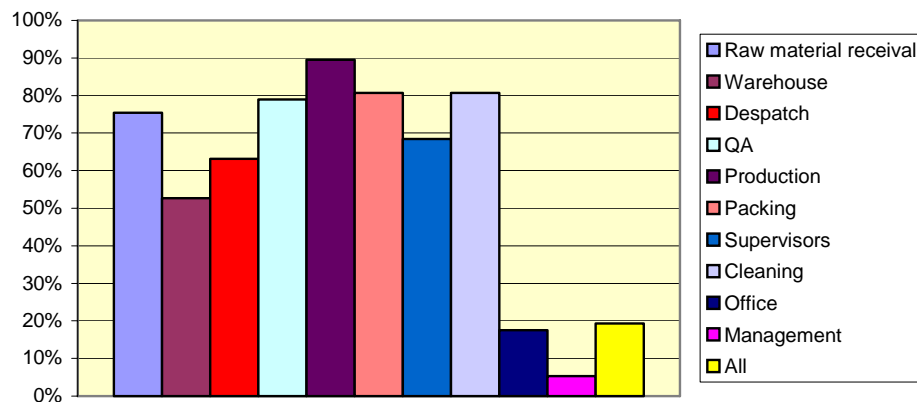


■ Owner/Operators ■ Small Co.'s (<10 staff) □ Medium Co.'s (10 - 50 staff) □ Large Co.'s (>50)

6. Specific Outcomes by Question

Question 1: Which roles within your organisations require skills and knowledge related to food safety in order for staff to perform their job to the desired standard?

Which Roles Require Food Safety Skills and Knowledge?



Comments:

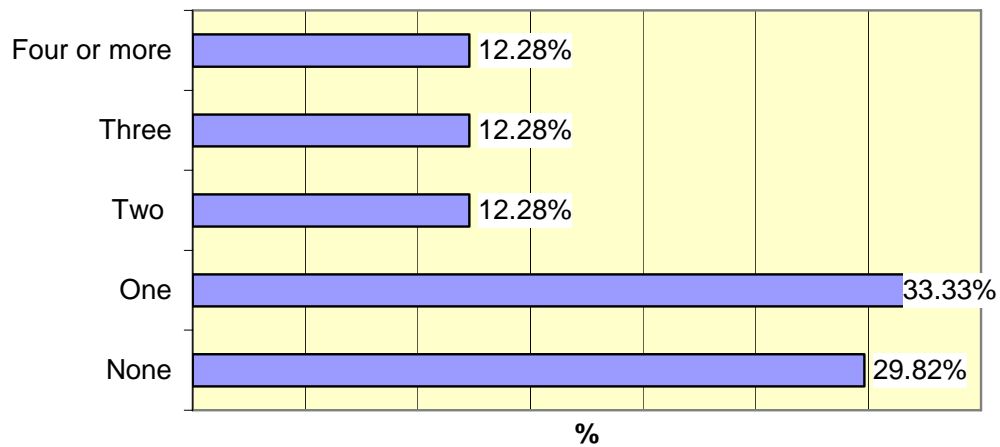
- There was significant consensus that the key areas requiring food safety skills and knowledge are production, packing, cleaning and quality assurance.
- Other work areas identified included sales and maintenance.
- Some replies indicated that it is important for senior management to understand food safety in order to provide commitment and importance to the subject. In this case, food safety leadership comes from the top.
- Supervisors have a high level of need for quality food safety training. This was also evident in a recent study in New Zealand, which found that “people in these roles would be expected to take responsibility for their shift and also for the training of others”⁴.

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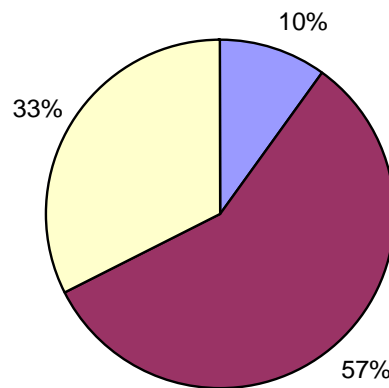


Question 2: Do any employees hold diploma or degree qualifications in food science or a related field?

How Many Employees Hold Tertiary Qualifications in Food Science?



Which Tertiary Qualifications Are Most Commonly Held?



Other B. App Sci Food Diploma Dairy Tech

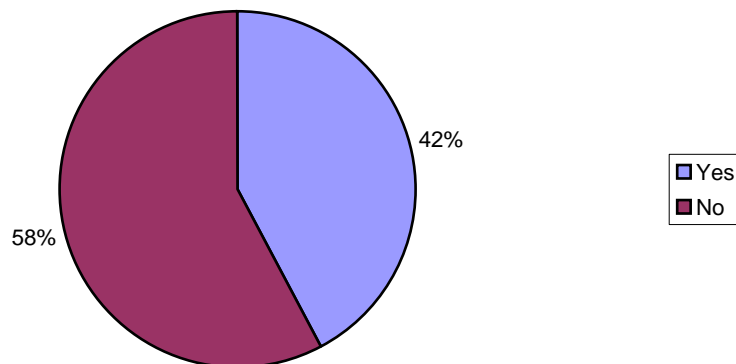
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Comments:

- The majority of those companies with a tertiary qualified employee(s) rely on that person to conduct internal food safety training with the remainder of the staff.
- Almost 30% of companies who participated do not have any staff with tertiary qualifications in food.
- The majority of staff holding a diploma or degree are employed in the areas of Quality Assurance within a company.
- A Bachelor of Applied Science in Food is the most common qualification, followed by a Diploma in Dairy Technology.

Question 3: Have any employees undertaken Vocational Education and Training (VET) Certificate Courses I-IV in Food Processing?



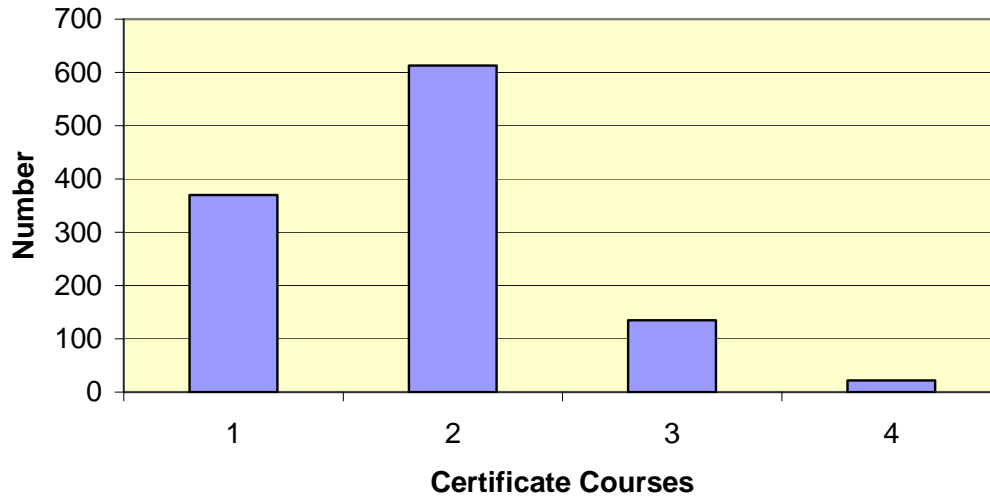
Comments:

- A large number, at least 42%, of those surveyed have made use of the VET sector for training.
- The reasons given include economical cost and the suitable location of many of the TAFE colleges.

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Which VET Courses Have Been Undertaken?



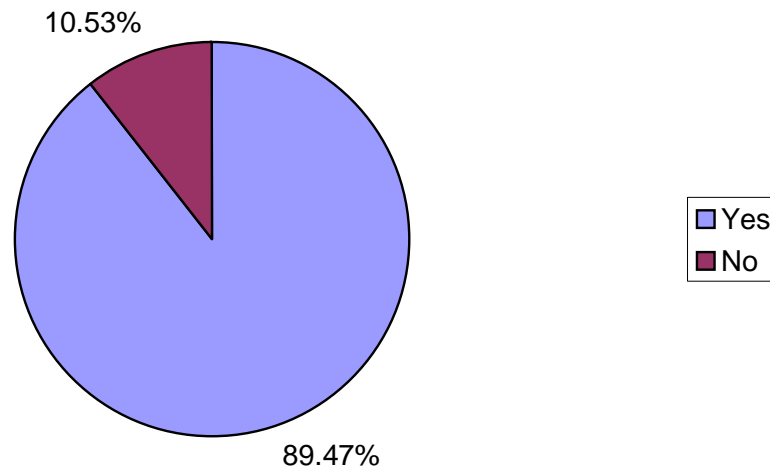
Comments:

- Certificate II in Food Processing is the most popular. The food safety related subject within this qualification is FDCORFSY2A "Implement the Food Safety Program and Procedures".
- It is seen as being of suitable length and content for factory staff.
- The VET Certificate courses in Food Processing are attractive to companies as they are subsidised by the government.
- There is a strong marketing campaign by private providers of courses such as the VET Certificate III in Food Processing due to the above subsidies. Evidence suggests that most of the subject matter is not suitable or relevant for the average factory staff member, ie. it is too advanced.
- One company has had issues with the assessment of Certificate III not allowing an interpreter (employee of company) to be used, resulting in only 2 of 13 staff passing and achieving the certificate.

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Question 4: Do you carry out internal food safety training?



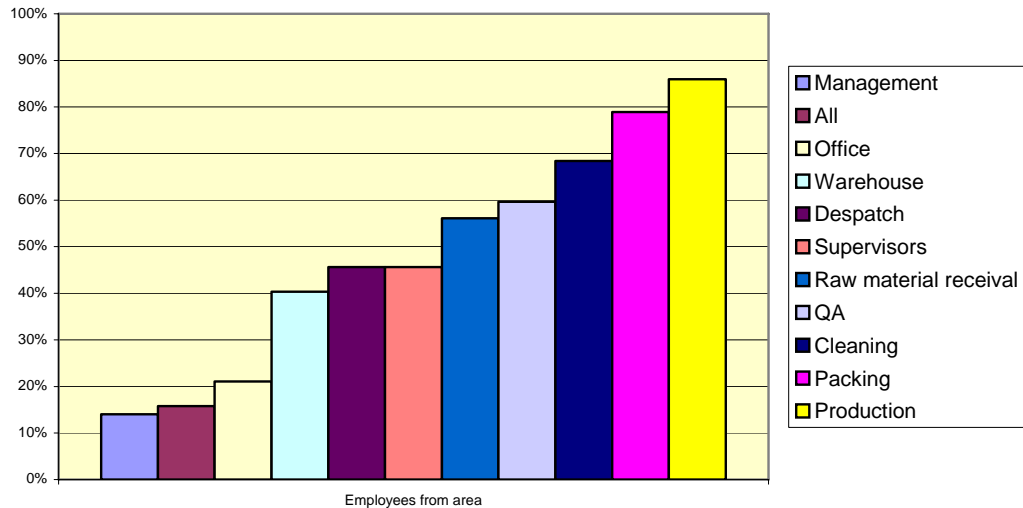
Comments:

- The vast majority of companies use their experienced and/or qualified staff to carry out internal food safety training.
- It is most often conducted as part of the induction process.
- Very few employers (less than 5%) use competency measures to check that the information taught has been understood.
- The approximately 10% of responses indicating “no” to this question, correlates with the number of owner/operators, suggesting they do not have a need to train anyone else internally.

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In which areas are staff trained internally in food safety?



Comments:

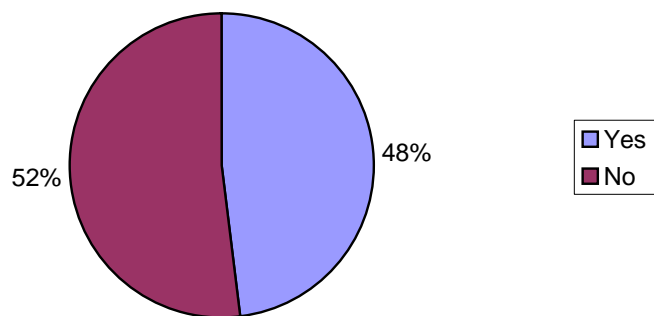
- Employees involved in handling food or equipment such as production, cleaning and packing staff are generally those given internal food safety training. This training is commonly delivered by QA staff (or owners in small companies).
- Internal food safety training usually consists of basic GMP, hygiene and sanitation and prevention of cross contamination.
- In very few cases did the internal training include a review of the company's food safety program.

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Question 5: In the past 2 years, have any employees undertaken external training with a food safety component?

Have any staff attended external food safety training in the past 2 years?



Comments:

- There is an almost even split between those companies who have used external training providers (48%) and those who have not (52%).
- In some cases, the courses have not been seen to be valuable, due a variety of factors. The most common one being that the training was not relevant as it was too basic or not specific enough to the dairy/manufacturing industry. This comment is particularly true in regards to the basic food handling training required under the Victorian Food Act which is far more suited to retail, having been designed in conjunction with the Department of Human Services and most training tools used under this system drawing examples from retail rather than manufacturing applications. The effectiveness of this system formed the basis of a large project conducted by the Victorian Department of Human Services Food Safety Unit in 2005, titled "Evaluation of the Food Safety Supervisor Requirement of the Victorian Food Act 1984"⁵.
- There are a variety of providers used for this external training. There appears to be no favoured individual providers, as the names of providers repeat no more than a few times each.

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Some of those used include:

TAFE/GOVT.

Wodonga TAFE College
Goulburn/Ovens TAFE
Gilbert Chandler College
NMIT TAFE
Melbourne City Council

PRIVATE PROVIDERS

SCA Training
NCSI
SAI Global
Advancing Food Safety
SW Training
ARPEE Consulting
APEX Human Services
Integrated Training
Foodworks Pty Ltd
Key Training
Australian Food Quality Associates (Consultants)
Qualitas Consulting

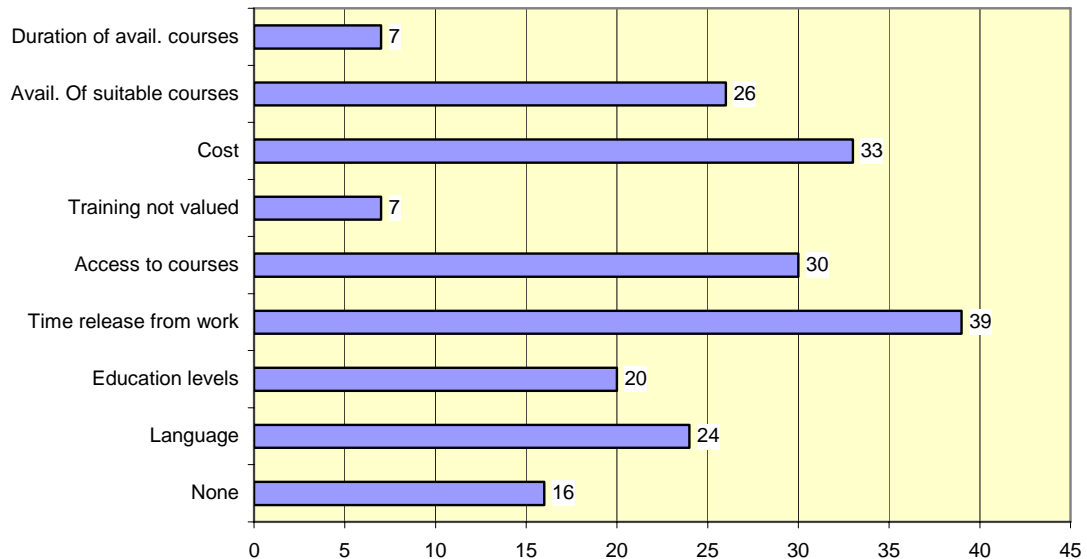
- 75% of external trainers used are Registered Training Organisations (RTO's). 57% of these are private providers and 18% are TAFE institutions. 25% of industry trainers are not RTOs.
- A more comprehensive list of training providers commonly used in Victoria can be found in Component 3, Appendix 2, of the DHS report referenced above titled "Food Safety Training Available in Victoria". This is readily available on the DHS website.
- The average duration of external food safety short courses is 1-2 days. More days may be applicable to advanced subjects and/or senior positions. VET Certificate courses are longer (6-12 months), however only a very small component of these courses relates to food safety.

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Question 6: In your experience, have there been any barriers that may have prevented employees from undertaking external food safety training?

Barriers That May Have Prevented Training Being Undertaken



Comments:

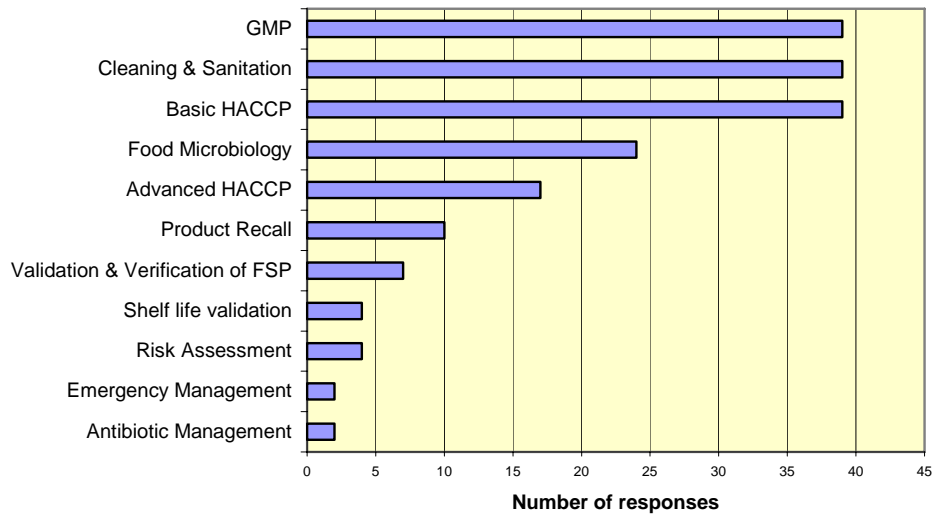
- Making the time for staff to be away from daily production is a big issue.
- This also ties in with the recurring comments regarding staff turnover/casual staff and therefore potential lack of return on investment in training.
- The second most important barrier was seen to be the cost of training and potentially a lack of value for money.
- For those in regional areas particularly, access to courses can prove to be difficult.
- Literacy issues – Language must be kept simple to suit the education levels and English comprehension of factory staff.
- Education levels – some courses are too complex or intensive for factory staff.

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Question 7: In which of the following subjects do employees in your company have the greatest need to be trained?

Food Safety Subject With Greatest Need For Training



Comments:

- There is still a great need for quality training to be made available in the basic topics of good manufacturing practices, cleaning and sanitation and HACCP principles.
- For QA and/or management staff, the interest lies in obtaining advanced skills such as an understanding of food microbiology and product recall.
- Pasteurisation and cheese-making continue to be the most sought after practical subjects.

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Question 8:	What are the gaps that exist between the current level of food safety skills and knowledge present in your workforce and the desired level for competent performance?
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Comments:

Very few people answered this question. Perhaps it was too complex or too hard to answer. Those that did made the following statements:

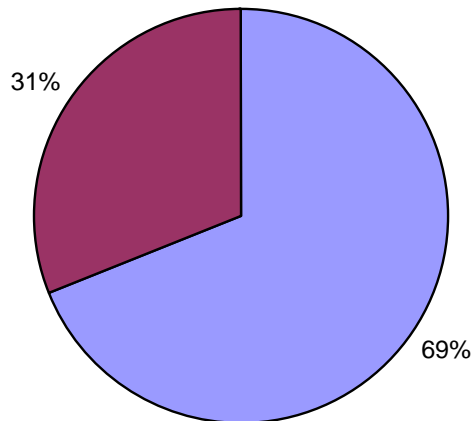
- Awareness and understanding of allergen control is needed.
- Not all staff are aware of the importance of food safety. Poor attitudes exist with some factory employees.
- Staff may not understand why they are being asked to record and monitor Critical Control Points (CCPs).
- Staff may understand the content, yet do not have the right attitude to implement what they have learnt in the workplace. Practical examples would help with this.
- Once the information regarding food safety has been presented several times, it loses its impact and becomes repetitive.
- Food safety is seen by some to be a boring topic. This makes retention of the information difficult.
- More in depth HACCP training is needed for supervisors and managers.
- More equipment specific training is needed for dairy.
- Staff may not be aware of the impact of their actions and decisions on the food safety of the products manufactured.

The recurring theme is around attitude. Even when the knowledge is present, applying it in the workplace may not be evident. It is felt that staff need to know “why” certain behaviours are important to exhibit, such as monitoring and recording data.

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Question 9: What is the ideal venue for delivery of food safety training?



■ On site at your plant ■ Off site at a training facility

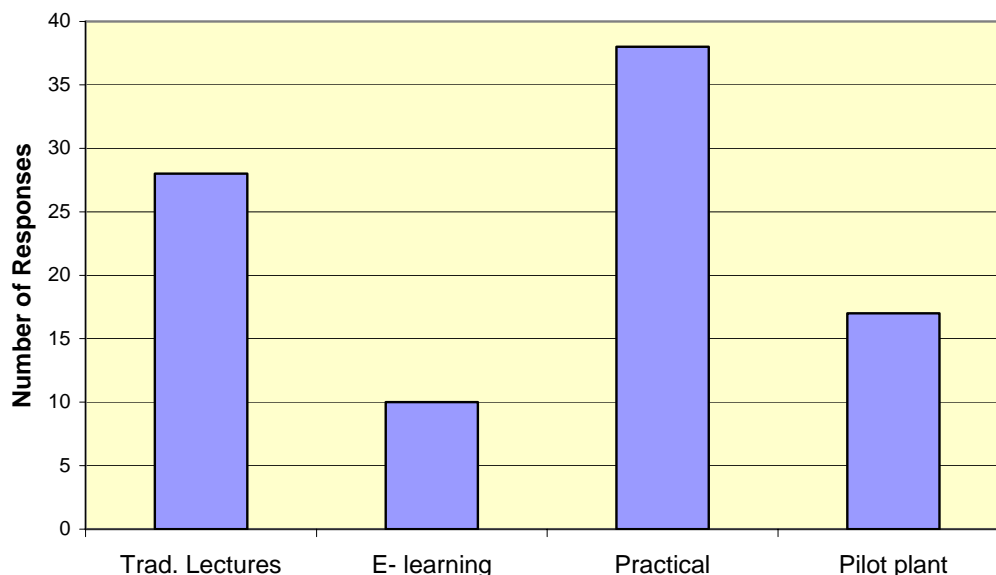
Comments:

- The vast majority of respondents (69%) prefer courses to be delivered on site at their plant/factory.
- Some of the reasons given are as follows:
 - On site courses improve the understanding of the training for staff in their own work environment.
 - No time wasted in travelling.
 - Time absent from workplace is minimised.
 - More cost effective – the course is generally cheaper due to no need for venue hire, food, etc.
 - Course content can be tailored to be more company specific.
- Of those that did prefer off site delivery, it was seen as more suitable for senior positions in order to remain focussed and to concentrate without production distractions.
- Off site courses offer contact for other members of the industry. This is seen as highly valuable.

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Question 10: What is the preferred format of delivery?



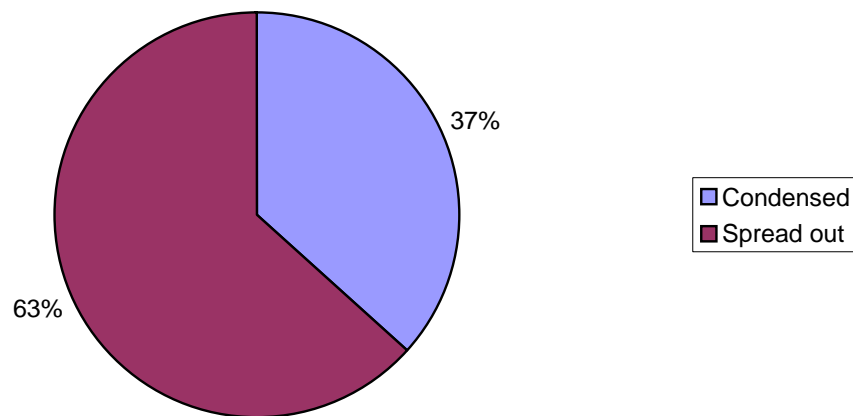
Comments:

- Traditional lectures are still popular. Feedback suggests that this form of teaching carries weight with participants and makes the course seem “serious”.
- The vast majority of adults learn best when a topic is “hands on”, thus the high response to practical activities.
- Some factory staff may not be computer literate.
- Personal presentation is preferred by some to make the message seem “real” eg. The use of body language, voice styles, etc.
- Suggestions made that whilst the course could be delivered hands on, the assessment could be via a computer based program at the trainees’ convenience.
- Practical assessments re-enforce the theory.

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Question 11: Do you have a preference for the frequency of delivery?



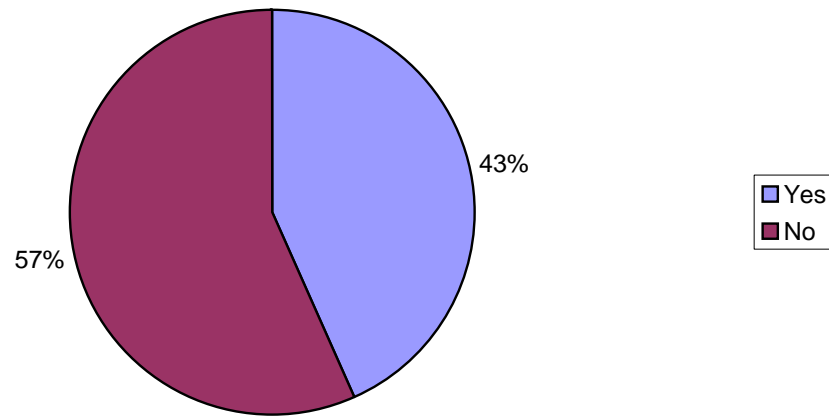
Comments:

- Seen as a significant benefit to release staff gradually.
- Attendees have time to digest and implement learning's in between each session.
- Hard for owner/operators to get more than 1-2 days away at a time.
- The "message" gets re-enforced over a longer period of time.
- Factory staff are better able to absorb small quantities of information at a time.
- Many respondents feel practical courses should run over a condensed period, however food safety theory be taught in a more spread out format.

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Question 12: Are you satisfied with the current level of dairy industry training courses available?



Comments:

- The majority of respondents are unaware of what courses are available.
- Many believe that the Gilbert Chandler Campus and its dairy courses have been discontinued.
- Some have had poor experiences with the limited courses available and are reluctant to recommend them or attend more.
- One respondent felt there should be some training in the legal obligations of QA staff and management.
- The content of some practical courses is seen as “boring, outdated and irrelevant. They need to focus on smaller scale, speciality cheese-making, not just large scale manufacture”.

7. Focus Group Session Outcomes

The Focus Groups supported and elaborated on the findings of the survey and reinforced common themes and concerns. The main points made were as follows:

- To get benefits out of training it needs to be seen as relevant and appropriate by both managers and employees. Middle/line managers should be actively involved in identifying the problems they encounter related to food safety and make sure these are directly addressed by training. Training does not exist in isolation. It is part of a wider workplace culture.
- There is an overwhelming call for training to be relevant and tailored to the needs of the industry, sector and workplace. In the vast majority of cases, this was not the experience. Where it was it often came at a high price.
- There was repeated criticism that training is too theoretical, not linked to the needs of the workplace and doesn't use relevant examples to illustrate principles.
- There was a repeated suggestion that DFSV should provide a recommended list of trainers. It was generally agreed that this would be difficult to manage. Another approach is to support industry to select trainers with the appropriate approach/skills. The group identified the beginnings of a checklist that could be used to assess the capacity of external training providers
- While there was broad agreement about the type of training required, there are real challenges to finding this. One aspect of the problem is that the trainers do not find it cost effective to gear training to suit workplace application, particularly where workplaces are quite small.
- The group discussed options for separating out aspects of knowledge/general principles that are common across food handling environments. The second set of skills and knowledge are those that need to be specific to the products and processes used in the workplace.
- Some industry members would find it useful to establish opportunities to discuss/get information about training/assessment matters.

8. Project Conclusions and Recommendations

Having produced a summary of both the questionnaire and focus groups sessions, the next step has been to analyse the data and draw some conclusions. These have been, and continue to be, discussed with industry stakeholders.

These discussions have taken place with education providers, industry bodies and various government departments such as:

- The Department of Human Services Victoria,
- Regional Development Victoria,
- The Agri-food Industry Skills Council,
- The Victorian Food Industry Training Board,
- Dairy Australia.

Some of the conclusions to be drawn from the research and corresponding recommendations are listed below for further discussion, development and action:

8.1 Food safety training content and delivery needs to be relevant and tailored to the needs of the dairy industry, manufacturing sector and the workplace.

Recommendation:

- DFSV facilitate an improvement in the quality and relevance of food safety training available to the dairy manufacturing sector.

8.2 Engaging external providers can be difficult and often little value is found in the training course content delivered.

Recommendations:

- DFSV provide support to this process by publishing a guide to selecting trainers with the appropriate approach/skills for their business needs.
- DFSV provide a link to a register of training organisations delivering courses with a food safety component.

8.3 The training system is complex and can be hard to navigate and use.

Recommendation:

- DFSV publish a Dairy Food Safety Note on the various training frameworks and include requirements for staff in the dairy industry.

8.4 Some companies prefer to conduct food safety training internally. Many manufacturers of small and medium size need support to conduct this training.

Recommendations:

- Dairy specific guidelines/checklist for conducting basic (level 1 induction) food safety training in house be developed and circulated by DFSV.
- Access to food safety training tools and resources be made available for enhancing (level 2 – more advanced) food safety skills and knowledge for appropriate staff. This may include advice on manufacturers incorporating material relevant to their organisation.
- DFSV facilitate the establishment of a training network/mentoring group with interested parties in the dairy industry. This could be used to provide advice, test programs, seek feedback, share ideas, etc.

8.5 To get benefits out of training it needs to be supported by both managers and employees. Managers and/or owners should be actively involved in identifying the problems they encounter related to food safety.

Recommendation:

- The importance and benefits of food safety training be communicated to production and operational management (QA already aware) within dairy manufacturing companies.

8.6 Some companies have indicated that the food safety training of Environmental Health Officers (EHOs), in relation to dairy products specifically needs improvement.

Recommendation:

- Effective communication channels be developed between DHS and DFSV, in particular to inform them of specific dairy industry food safety requirements, to provide consistent standards for industry.

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9. Appendix – Focus Group Session Outline

1. Company introductions: business activity, size, experience with food safety training
2. Training System overview
3. Structured Discussion

Discussion Prompts

- Which job roles are the primary targets for food safety training?
- How adequate/appropriate is the content/coverage of food safety training?
 - Are there any gaps in training content?
 - Is any content irrelevant/inappropriate?
- What are the issues/concerns about the availability of food safety training?
 - Are there any difficulties in accessing appropriate food safety training?
- Where training is available, are you happy with the way training is delivered?
 - Who does/should deliver food safety training?
 - What types of training approach is best suited to your needs?
- What training do you currently use to address any shortcomings with existing food safety training?

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