



HACCP AUSTRALIA

FOOD SAFETY BULLETIN

ISSUE 23 2016

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GS1 Australia Recall streamlines the recall and withdrawal notification process

Retailers, manufacturers and consumers are growing increasingly concerned about food safety and the number of products being recalled or withdrawn.

According to the Australian Competition and Consumer Commission (ACCC), there have already been 69 recalls of food and grocery items reported in 2016*.

These product recall events have shown that delivery of timely and accurate information to trading partners and regulatory agencies is paramount in the protection and safety of the consumer, the company and the brand.

In May 2010, the ACCC published the 'Review of Australian product safety recalls system' report which highlighted the need to improve the effectiveness of the product recall management process.

The total recall

GS1 Australia Recall (formerly GS1 Recallnet) was officially launched in August 2011. The GS1 Australia Recall (*Recall*) service is a web-based portal which enables manufacturers, suppliers and distributors to efficiently, accurately and securely communicate product recalls to customers and regulators.

Based on GS1 standards and global best practice, the service is designed to increase the speed and accuracy in the removal of unsafe or unsuitable products from the supply chain.

Developed in collaboration with Food Standards Australia New Zealand (FSANZ), the Australian Food and Grocery Council (AFGC), the ACCC, national retailers and a number of Australian and international food and grocery manufacturers, *Recall* has assisted over 250 Australian food and beverage

companies with the development and implementation of their product recall and withdrawal management process.

With current subscribers including major retailers such as Coles, Woolworths, Metcash and Costco, *Recall* is the key to a more effective product recall management process.

Recall has recently been certified by HACCP Australia as being effective and suitable for businesses operating a HACCP food safety program and is also mentioned in the FSANZ Food Industry Recall Protocol.

Nestlé's eBusiness Manager, Mandeep Sodhi said, "Nestlé has integrated GS1 *Recall* within its own product recall and withdrawal processes as it provides far greater speed, accuracy and control over such a critical event."

Product recall communication plans and tools are must haves

Just as the food industry has taken on board food safety certification in an effort to prevent food safety incidents, *Recall* provides a framework to quickly and effectively respond should an incident progress to a recall or withdrawal notice.

Peter Chambers, GS1 Australia's Head of Supply Chain Improvement, said the increasing demands for food product safety for consumers and an effective product recall management process are the main focus in today's supply chain pyramid.



"GS1 Australia Recall uses global GS1 standards and ISO standards, allowing interoperability with other recall portals and is clearly supported by industry and regulators including FSANZ and ACCC," said Mr Chambers.

Recall provides a standardised solution across industry that delivers process improvement and information vital to consumer and food safety excellence. In the event of a product recall, *Recall* ensures affected products are correctly identified and expressly removed, targeting all affected parties with the right information to allow them to remove only the items identified in the notice.

GS1 Australia provides complete training and ongoing support so users can be reassured they will be adequately prepared to action a recall or withdrawal notice, safely and securely online.

"Recall is the only product recall notification system that is documented in the FSANZ Food Industry Recall Protocol. Therefore companies using the *Recall* portal to communicate a notice can be assured they are meeting their regulatory requirements," added Mr Chambers.

"The ability of *Recall* to receive and assemble information from trading partners enables companies to record and report on the progress of a product recall."

If we have to notify our customers of a recall, we know we will be able to do so quickly. With *GS1 Recall Australia*, we can be sure that the notification will reach the people it needs to, when it needs to, so they can act quickly."

Rick Drury, Managing Director at Drury Orchards

'Mock Recalls' get you ready for the real thing

Recall is also helping organisations with a critical part of product recall preparation – undertaking mock recalls.

In Australia, an annual mock recall is required for all businesses that manufacture, import, distribute or wholesale food products as part of their recall procedure in line with the Food Industry Recall Protocol set by FSANZ. The annual mock

recall is an essential part of HACCP, ISO and many other quality certification programs.

"Ensuring your company is ready to execute a recall effectively, to minimise consumer harm and business interruption, is of critical importance to businesses of any size, and the only way to do this accurately is to put your recall plans into practice," Mr Chambers said.

Effective mock recall drills provide valuable insights into handling the real thing when it happens. The mock recall function in *Recall* is designed to be part of a full mock recall process in a secure environment, helping organisations find and bridge any gaps before they encounter a real-life recall situation.

In addition to the industry protocol, many retailers and trading partners require their suppliers to demonstrate their ability to trace and recall a product by conducting mock recalls at least twice a year.

"Effective mock recall drills enable Australian food and grocery companies to effectively prepare for a possible recall event and at the same time, achieve their SQF/BRC accreditation by generating a mock recall notification to an independent third party organisation," Mr Chambers added.

It is no longer good enough to have a rough, hastily prepared, manual notice to communicate a product recall notice.

We want our suppliers to be prepared to create an industry best practice notice, quickly and with an audit trail."

Aaron Westwood, Exis Sustainable Systems – food safety consultants for Harris Farm Markets.

For more information

Recall is the only standards based solution for effective recall and withdrawal notifications to be issued by your business.

By increasing the speed and accuracy of recall and withdrawal notifications, *Recall* significantly decreases business and consumer risk, reduces costs, protects brands and ultimately, helps improve food safety in Australia.

To find out more about *Recall* and how it will help your organisation to minimise the impact and cost of a product recall or withdrawal, visit the www.gs1au.org/our-services/recall/ or contact GS1 Australia on 1300 BARCODE to speak to one of their experts.

GS1 Australia is the leading provider of supply chain standards and solutions for over 20 industry sectors. We introduced barcode to Australia in 1979 and today we enable more than 17,000 member companies of all sizes to become more efficient by implementing the GS1 system. We bring businesses, associations and industries together. This community comes to GS1 Australia for advice, networking and solutions to their supply chain challenges. *



Recall



*Source: <http://www.recalls.gov.au/content/index.phtml/itemId/952823>



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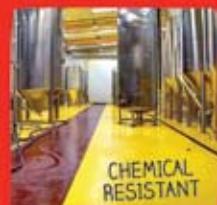
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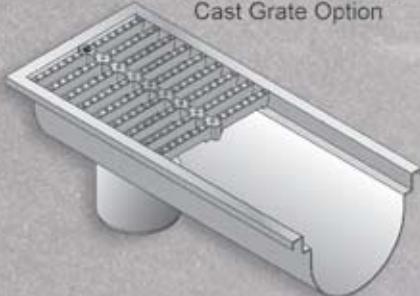
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The Juggler

**'Good bye' to bottles
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Really busy cafés can go through 150 litres of milk each day! That's a lot of 2 litre bottles. Every bottle is purchased, received, moved, stored, retrieved from storage, opened, poured, poured again, left on the bench, poured again and finally discarded. Waste, employee handling, bench space and storage space are all impacted.

However some cafes are swapping their manual bottle systems for a milk storage and dispensing system that is revolutionising the café industry and bring joy to its baristas. Using this system, milk is stored in bladders within a chiller cabinet under the bench and dispensed from taps right at the coffee machine.

The Juggler is the first milk dispensing system designed specifically for use in a busy café environment.

It reduces waste, speeds up service and helps café staff to focus more of their attention on providing a great customer experience – and a great cup of coffee.

Milk is supplied in 10-litre bladders that can be loaded into the chiller system, so that up to 120 litres of milk can be dispensed from the taps without the need to reload the fridge. Most of the country's milk companies now offer their customers milk in bladders that are compatible with *The Juggler*.

Once the milk is loaded, *The Juggler* helps to streamline the coffee making process and speeds up service. Time-saving features include hands-free volumetric dosing which enables a barista to activate a dose and then return to other tasks while the dose is automatically poured. This means less time is wasted opening, pouring from and crushing empty milk bottles.

Six Simple Machine's Ross Nicholls explains "We take our product development and testing very seriously. Initially we spent 15 months in R&D, testing and achieving compliance and certifications before we were ready to publicly show and sell our first machine. Even now when making a design change, we test components to at least one million cycles on specially-designed testing rigs before extensive field trials begin in operating cafés. Only then do we consider making a permanent change."

Charles Cameron, a Sydney barista with more than 4 years' experience using *The Juggler* has declared that for him the presence of a Juggler in his workplace is non-negotiable. "*The Juggler* has helped revolutionise milk usage in the café and specialty coffee industry. I believe *The Juggler* will one day become a universal standard, which will drastically reduce milk wastage."

From personal experience, Charles says *The Juggler* not only helps improve workflow, but provides a much cleaner



environment for busy café staff. "It's the complete package; it delivers consistent doses, maintains temperature, can be used to rinse pitchers, it has a drain, keeps everything clean and is in line with environmental values," Charles says. "*The Juggler* is evidence of how the industry has evolved."

Close to 400 cafés and restaurants across Australia and New Zealand are now using *The Juggler*. For these cafes, *The Juggler* provides savings opportunities that are easily quantifiable in terms of waste reduction, but it also adds value to businesses in many ways that are less measurable. This includes a range of OH&S benefits, positive comments from café customers and improvements in the speed of service, all resulting in more coffee sales.

Easy Line Flushing and Sanitisation:

The milk lines are cleaned daily by flushing and sanitising with special solutions developed especially *The Juggler*. The CIP (clean in place) system is simple to set up and runs automatically for 15 minutes. This is complemented by periodic dismantling and inspections from Six Simple Machine's service engineers.

HACCP Certification:

The Juggler has achieved HACCP International's Food Safe Equipment, Materials and Services Certification. Ross Nicholls of Six Simple Machines reports that "Achieving



this certification was an extremely important factor in our initial R&D process. Throughout the initial design phase, we worked extremely hard to develop an easy-to-use and effective CIP (clean in place) system. As part of this, we worked with the Australian cleaning chemical manufacturer, Cafetto, to develop a milk line cleaner that would complement our CIP system and guarantee ongoing hygiene of the system without physically degrading internal components of the machine.

“Despite being confident in our CIP and cleaning chemical, we felt that we needed an independent and respected authority to verify our own findings and to help promote this aspect of *The Juggler* to prospective customers. Because HACCP Australia is widely regarded as an authority on food safety and hygiene throughout the café industry, their certification was the obvious choice.”

Final thoughts:

“What’s been most rewarding is that *The Juggler* has proven that the milk on tap concept is not only viable, we hear it being described as ‘the way of the future,’” Six Simple Machine’s Ross Nicholls. *

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Testing is a tool: Improved microbial food safety assurance: tools and technologies to reduce the guesswork.



**Most people know
the basic rules of
food hygiene,
don't they?**

By Dr Tom Ross

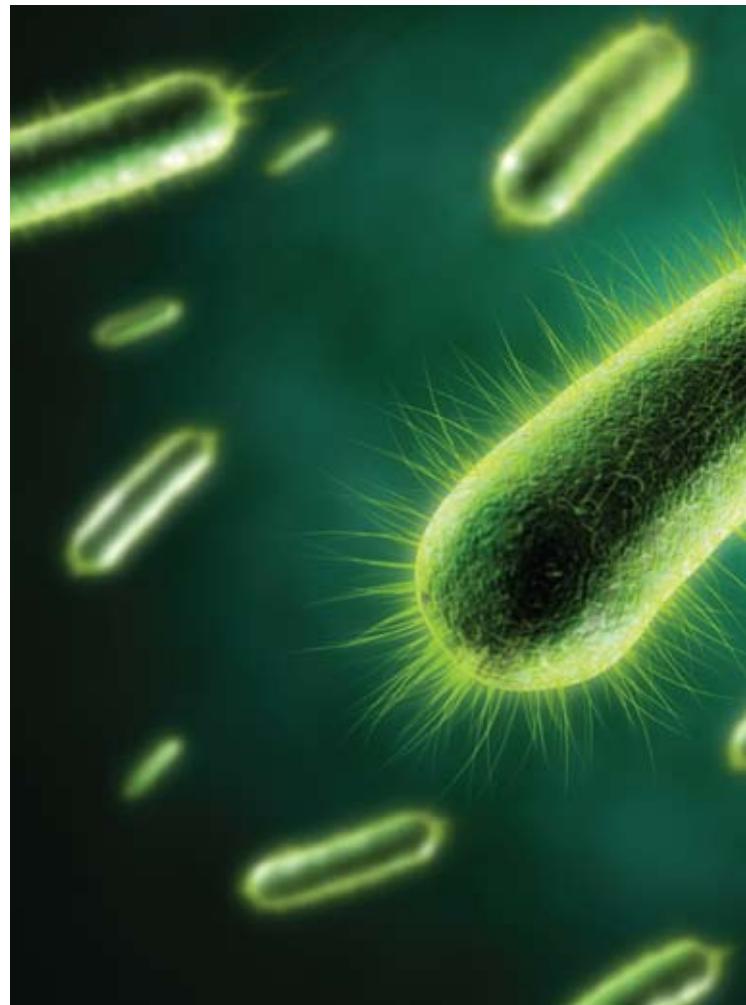
We teach our children to wash their hands after going to the toilet, we know to keep left-overs in the fridge and to cook, or at least wash, raw foods because they might be contaminated with 'germs'. We cover foods, we avoid mixing cooked and raw and, if the food is old or we're not sure about how it's been stored, we apply the old adage of "if in doubt, throw it out". They're really simple rules that reflect our awareness that invisible microbes might make us sick, and ways to minimise the risk. It's hardly rocket science, is it? And if these are simple rules that ordinary people apply, how much safer must it be when food professionals prepare and process foods?

If it is that easy, then it's hard to understand why – particularly given the enormous advances in biological science and technology over the last few decades – that there seems to have been no reduction in the incidence of microbial food-borne illness in decades.

Our foods, at source, are not free from microorganisms. Irrespective of technological advances, foods are still produced in natural environments that can harbour pathogenic microbes. Common food animals have a gut microbiota that can also harbour pathogens. Cows udders can become infected and contaminate milk with pathogens like *Staphylococcus aureus* or *Listeria monocytogenes*. Microbial hazards arise from myriad sources, often without signs that contamination has occurred.

The problem is compounded by expectations that fresh food is inherently 'healthier', and by longer food supply chains that can extend across continents. Longer supply chains with more handlers involved, and reduced use and choices of food preservatives, increase the chance of contamination and for microbes to grow to hazardous levels before consumption. Put simply, much higher standards of food hygiene are expected, and needed, but with fewer 'weapons' in the arsenal.

'End product' testing is useful only for batches of product that contain a high proportion of defective units, i.e., units that fail to meet relevant food safety criteria. If we assume that a just tolerable foodborne illness risk is one per 100 meals, to assure



this incidence by testing we would need to be able to detect batches of product that have ≥ 2 contaminated units per 100. We have the methods, particularly those involving enrichment and/or signal amplification (e.g. PCR), to detect a few microbes in a large volume (e.g., 125g) of food, but only if we know where to look. The problem is finding those one or two contaminated units among 100 with confidence. The probability of detection can be estimated using the "binomial distribution"⁽¹⁾ equation, that tells us how many samples are needed to be 95% certain that the batch as a whole has less ≤ 1 in 100 unacceptable units.

The binomial distribution tells us we'd need to take 299 samples, and they'd all have to test negative, to provide confidence that the frequency of contaminated units was less than one in 100. However to be confident that the frequency of contamination was less than one in 10,000 (essentially the estimated status quo), we'd need to take nearly 30,000 samples and all of them would have to be "clear"⁽²⁾. Those sorts of sampling numbers are simply not feasible.

So, what is the answer?

On May 25, 1961 then US President John F. Kennedy set a vision for his nation, that USA should "commit itself to achieving the goal... of landing a man on the moon and returning him safely to the earth." That speech started the 'space race', but the race was not without drama. The US space

(1) To be strictly correct, we should use another, related, equation called the 'hypergeometric distribution', but for almost all practical purposes the binomial distribution gives the same result.

(2) Reliable on-line tools that can perform these calculations to design or assess the reliability of sampling plans can be found at: http://www.icmsf.org/main/software_downloads.html, or <http://www.fstools.org/samplingmodel/>



The Expedition 20 crew members share a meal in the Unity node of the International Space Station. Image Credit: NASA

program had many spectacular explosive failures and the rocket scientists realized there was a weakness in the way that the rockets were assembled and constructed. Through those failures it became clear that new techniques for assuring the quality of individual components and their final integration were needed.

A technique called Failure Mode, Effects, and Criticality Analysis (FMECA), first developed by the US Army in 1949 was applied to the Apollo program. That analysis focused attention on ensuring the absolute reliability of ‘mission critical’ components, including the astronauts themselves. Thus, the

safety of the astronauts’ food supply was regarded as critical which led to the application of FMECA to food production, eventually spawning the Hazard Analysis Critical Control Points (HACCP) system. HACCP is now the most widely endorsed approach to food safety management in the world.

The basic principle of HACCP is that by understanding where hazards arise in food processes and by putting in place procedures to prevent, control or remove them, those hazards can be controlled in the end product to ensure the safety of the food and to minimise reliance on “end product” testing. Indeed, before HACCP, quality assurance for space foods initially consumed most of the food through testing.

Sooner or later, if you perform HACCP properly, you end up asking questions that need quantitative answers, like “how much control is needed” and “how can it be achieved?”, For instance what times, and temperatures, or product formulations are needed to control specific microbial hazards?

To answer those questions requires a high level of expert knowledge because of the diversity of behaviour and environmental limits of different microbial hazards. Thus, while HACCP is founded on a logical a system that allows for the early detection and elimination of specific hazards the correct application of the concept requires comprehensive expert knowledge.

Fortunately, food microbiology is predictable and the reproducibility of microbial behaviour in foods does offers great potential to food safety managers.

Microbes can't think, ergo Predictive Microbiology

Bacteria and fungi can't think. They don't have free will. As such, they tend to behave reproducibly in response to their environment, which has led to the development of the discipline of predictive food microbiology.

The basic premise of predictive food microbiology is that the behaviour (growth potential, growth rate, inactivation) of microorganisms is deterministic and able to be predicted from:

- specific characteristics of the micro-organism itself
- the immediate environment of the micro-organism (i.e., food composition and storage conditions)
- time the organism is in those conditions and – sometimes –
- the previous environment (because it affects lag time, and may affect resistance to inimical conditions).

In practice, the information about those responses is derived from systematic studies in research laboratories or gleaned and collated from the published scientific literature. The patterns of response are characterised and the data and patterns summarised as mathematical equations, called “predictive microbiology models”. In essence, these equations represent condensed quantitative knowledge of the microbial ecology of foods.

No matter how much a researcher knows, or how well that knowledge can be summarised in a mathematical model, to be useful that knowledge still needs to be communicated and made accessible to people in the food industry in a form that they can use to improve food safety or shelf life. Accordingly, the equations are usually integrated into computer software that automates the calculations to enable quick predictions of microbial changes in foods over time.

Many of these models are publicly available and can be downloaded, or used, for free. As an example of the depth of

information, ComBase, which is the most developed predictive microbiology application in the world, is based on ~ 50,000 determinations of microbial growth, or inactivation rate, or survival, relevant to foods.

Australia is an international leader in the use of predictive microbiology, having adopted the "Refrigeration Index" (RI), a predictive microbiology model, into legislation. The RI evaluates the effects of temperature and time on the safety of red meat by converting that data into the potential growth of E. coli.

Recently, Australia adopted Codex Alimentarius Commission (CAC) criteria for L. monocytogenes in foods. Those regulations differentiate between foods that do, or do not, support the growth of L. monocytogenes. For foods, that do not support growth, tolerance for L. monocytogenes is much higher (≤ 100 CFU/g) than in products that do support growth (<1 CFU/25g), greatly reducing the probability of product recalls and the burden of microbiological testing. In the guidelines the use of predictive microbiology models to differentiate foods that do, or do not, support the growth of L. monocytogenes is specifically endorsed.

There are limits of application of predictive microbiology. Predictions about the number of bacteria in a specific food after a certain amount of time, and under given storage conditions, requires that we know the initial number, and also how the storage conditions fluctuate over time. Low-cost data logging technology now exists that can wirelessly communicate details of product storage conditions over time. But sources of variability might include differences between strains, and inhomogeneity in the foods that might be enough to allow some cells to be able to grow, while others of the same population cannot. For these reasons, models usually make predictions that take this variability into account and can provide predictions that include the probability of different responses occurring in different environment.

Conclusions

Both theory and experience show that end-product testing isn't practical for food safety assurance, particularly for the low incidence of contamination that consumers expect. The HACCP philosophy approach provides the most reliable means of food safety assurance, but for that approach to be practical it's necessary to prioritise among potential hazards and understand how to control them. This challenge requires expert knowledge of the physiology of individual microbial hazards. That knowledge is increasingly being made available through the development of predictive microbiology mathematical models and software.

While basic principles of food safety aren't rocket science, the complexities of the modern food industry mean that food safety managers can gain much from lessons learnt and technologies developed in the space program. The HACCP concept had its genesis in the USA space program. The modelling approaches and software now being used to optimise food safety management rely on high level mathematics to develop tools and strategies to best satisfy the paradoxical consumers expectations of minimally processed foods with maximum levels of safety. *

Dr Tom Ross is Associate Professor in Food Microbiology in the Food Safety Centre at the University of Tasmania

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A photograph showing a person in a white lab coat and blue gloves performing three tasks: washing their hands under a faucet, holding a blue bowl filled with oatmeal, and holding a large piece of raw salmon. Three circular callouts point from the bottom of the image to specific products: a hand-washing station, a stack of Wypall wipers, and a pair of G10 nitrile gloves.

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Why a top US food poisoning expert won't ever eat these foods

by Roberto A. Ferdman

American lawyer, Bill Marler, who specialises in food-borne illness, has been involved in many high profile outbreaks over the past 30 years, including the 1993 E. coli outbreak at American chain Jack in the Box, which killed several children and forced the US government to administer a zero tolerance for the presence of the pathogen in food.

Food recalls, of which there are many, frequently fly under the radar. In 2014, the most recent year for which US data is available, more than 8000 food products were recalled by the Food and Drug Administration and nearly 100 were recalled by the US Department of Agriculture (the figure in Australia is much lower, with FSANZ reporting 586 food items recalled in 10 years). The problem touches organic foods, too.

The industry, Marler says, does a good job of nudging people to forget about recalls, and we all do a good job of obliging, because food safety isn't the sort of thing anyone likes to think about.

In a recent piece, published in Bottom Line Health, he lists six foods he no longer eats, because he believes the risk of eating them is simply too large. The list includes raw oysters and other raw shellfish, raw or under-cooked eggs, meat that isn't well-done, unpasteurised milk and juice, and raw sprouts.

"You wouldn't believe some of the things I have learnt over the years," he said. "I have some crazy stories."

I spoke to Marler to hear some of these stories, learn about the things we might want to think twice about eating, and better understand what exactly it is that people don't understand about food safety. The interview has been edited for length and clarity.

Would the average person be horrified if they knew what you know about the food system?

I think there are a lot of things about the food system that the general public would find completely nonsensical - not necessarily frightening, but definitely nonsensical. Like how E. coli is considered an adulterant in hamburgers, but salmonella and many other pathogens are not. How salmonella is allowed on chickens, which the USDA oversees, but salmonella is not allowed in any product that the FDA oversees.

In Australia, there is a national E. coli and Salmonella Monitoring program for the microbiological monitoring of carcass surfaces. As the recent salmonella outbreak in Sydney from chicken rolls and the 2014 outbreak in Melbourne from eggs show, the program is not flawless.

Why is it that the US government has acted on E. coli, but not on other pathogens, namely salmonella?

Where we are now is kind of where we are with vaccine and people, where you have some people questioning the necessity of a system that works, without question. You know, when was the last time you saw someone with polio? But you hear people in certain parts who take that reality and then

wonder whether they need to vaccinate their children since polio hasn't really been around. We see places advertising that they're undercooking hamburgers, because it tastes better. I find that worrisome. Even though we've pushed a lot of E. coli out of hamburgers, they're playing with fire by not cooking their hamburgers thoroughly.

Is the presence of salmonella any less dangerous?

No. In my view, what the US government did in 1994 with E. coli, was they knew what they wanted to do, which was to get it out of hamburger meat. They justified it by saying that the infectious dose was low, that people don't necessarily cook hamburgers the way they should - it's difficult to cook them thoroughly, and there's a high risk of cross contamination. They had a long list of arguments as to why they needed to take that action.

But frankly all of that applies to salmonella. The infectious dose for salmonella is higher, but we're talking about infinitesimal, invisible quantities of bacteria. 100,000 bacterium of salmonella would fit on the head of a pin. So you're not really looking at a product that is grossly contaminated; you're looking at a product that is a little contaminated, and that little bit of contamination is enough to get people really sick. Salmonella kills more Americans every year than E. coli does, and can cause severe long-term complications.

About 5.4 million Australians suffer from food poisoning each year resulting in an average of 120 deaths.

You were trending on Facebook recently, because you listed a handful of things that people love to eat but you refuse to eat for safety reasons.

It depends on how you look at it. I mean, if I went back and looked at all the foods I have been involved in that have poisoned people, you could make a very long list - the things you would be left with would be very short. When I made that list, I stuck a couple things together, like unpasteurised milk and juice. It's based on more than 20 years of experience, that has taught me that these are the food items that are, from my perspective, the ones that have caused more issues, and, especially in a restaurant setting, where you're not controlling the handling of your food, are best left alone. This doesn't mean that other things, like rockmelon (more on page 26) couldn't find their way onto the list. But these are the ones that I have had to deal with the most often over the years.

You keep telling me that you have all these crazy stories - all these things I wouldn't believe. Can you share one of them?

I actually have the perfect one, which I told at a recent conference, and really floored people.

Do you know the juice Odwalla? Well, the juice is made by a company in California, which has made all sorts of other juices, many of which have been unpasteurised, because it's

more natural. Anyway, they were kind of like Chipotle, (more on page 26) in the sense that they had this aura of good and earthy and healthful. And they were growing very quickly. And they had an outbreak. It killed a kid in Colorado, and sickened dozens of others very seriously, and the company was very nearly brought to its knees. (The outbreak, which was linked to apple juice produced by Odwalla, happened 20 years ago).

If you look at how they handled the PR stuff, most PR people would say well, they handled it great. They took responsibility, they were upfront and honest about it, etc etc. What's interesting though is that behind the scenes, on the legal side of the equation, I had gotten a phone call, which by itself isn't uncommon. In these high profile cases, people tend to call me - former employees, former government officials, family members of people who have fallen ill, or unknown people giving me tips. But this one was different. It was a Saturday - I remember it well - and someone left me a voicemail telling me to make sure I get the US Army documents regarding Odwalla. I was like 'what the heck, what the heck are they talking about?' So I decided to follow up on it, and reached out to the Army and got something like 100 pages of documents. Well, it turned out that the Army had been solicited to put Army juice on Army PX's, which sell goods, and, because of that, the Army had gone to do an inspection of a plant, looked around and wrote out a report. And here's what's nuts: it had concluded that Odwalla's juice was not fit for human consumption.

Wow.

It's crazy, right? The Army had decided that Odwalla's juice wasn't fit for human consumption, and Odwalla knew this, and yet kept selling it anyway. When I got that document, it was pretty incredible. But then after the outbreak, we got to look at Odwalla's documents, which included emails, and there were discussions amongst people at the company, months before the outbreak, about whether they should do end product testing - which is finished product testing - to see whether they had pathogens in their product, and the decision was made to not test, because if they tested there would be a body of data. One of my favourite emails said something like "once you create a body of data, it's subpoenable".

So, basically, they decided to protect themselves instead of their consumers?

Yes, essentially. Look, there are a lot of sad stories in my line of work. I've been in ICUs, where parents have had to pull the plug on their child. Someone commented on my article about the six things I don't eat, saying that I must be some kind of freak, but when you see a child die from eating an undercooked hamburger, it does change your view of hamburgers. It just does. I am a lawyer, but I'm also a human.

That Odwalla story is one of the crazier stories I can think of, but there are many others, and there would be many fewer if the way we handled food safety here made more sense. *

The Washington Post with Fairfax Media

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We are a proud family business, 100% Australian and New Zealand owned and operated. Focused on these two geographic markets, our team of highly experienced food technologists work collaboratively, sharing knowledge and experience, to find the best solution for you.

Hawkins Watts was founded in Auckland in 1992 by Peter Hawkins. He was determined to do more than just trade ingredients. Dedicated service, great technical support and good relationships were his vision. In 2001, Hawkins Watts expanded its reach to Australian shores, and have never looked back.

Our core values of Respect, Teamwork, Responsibility and Service, form the basis of how we operate and set the grounds for nurturing long-standing relationships. They also support the growth and evolution of new ideas. Ideas that have kept us engaged, excited and absorbed in what we do, for the last 24 years.

Today, the Hawkins Watts brand is synonymous with Trust, Service, Quality and Technical Competence. The below are fundamental to the way we work:

- Choosing ethical partnerships
- Adding value by sharing technical knowledge
- Giving back to our wider community
- Providing outstanding service
- Maintaining high quality standards

At Hawkins Watts we believe everyone has the right to safe and good quality food. As part of our commitment to providing food manufacturers with top quality ingredients, we first achieved HACCP certification in 2005.

We have found the HACCP Audit and

At HACCP Australia we really value our customers and seek to build long term, consultative relationships with each of them. We are thrilled to showcase a selection of our food clients who have achieved certification for 10 or more years. Here, the business owners, in their own words, highlight features that have contributed to their operation's success. Each of these clients clearly has a common characteristic; a HACCP Food Safety Management Programme that is completely integrated into their everyday business activities. Congratulations to all who make this milestone, we hope to be working with you for another decade!

Certification process to be straight forward, providing a good platform for questioning business processes. The preventative approach of HACCP has aided us in controlling food safety for our imported ingredients from receipt, right through to storage and distribution.

HawkinsWatts Food Ingredient Specialists

Contact: Hawkins Watts Australia

+61 3 9561 3710
sales@hawkinswatts.com.au
www.hawkinswatts.com.au

Contact: Hawkins Watts New Zealand

+64 9 622 2720
sales@hawkinswatts.com
www.hawkinswatts.com

Leaders in packaging focus on high quality customer service

For more than 40 years, FPS has been a leader in flexible packaging solutions.

Formed in Brisbane in 1970 as FlexPack, the packaging company has grown from strength to strength, with loyal customers coming back time and time again. The past four decades have seen FPS continually upgrading and expanding its products and services to allow for new, innovative developments.



With a team of experts on board, FPS is renowned for excellent customer service. Customers who purchase their packaging products from FPS know they are guaranteed to receive the highest standard of products and service. The team at FPS is proud to deliver quality products in full, on time, every time.

Craig Ralph, Chief Executive Officer, says "great customer service is at the forefront of the team's mind. The staff at FPS treat

customers like family, rather than business partners." Mr Ralph adds, "The culture of the company really is built around customer service, and we pride ourselves on delivering in full, on time, with a quality product."

For FPS, it is imperative that the quality of their products is exceptional. Using only the best suppliers, the company provides a huge variety of packaging solutions for both perishable and non-perishable foods. FPS now marks 10 years of HACCP certification, continuing to manufacture products their customer can trust and rely on.

These include both printed and unprinted:

- Laminated and unlaminated rewind
- Lidding films
- Stand up pouches
- Flat pouches, and
- Sleeves and bags

FPS' unique, integrated printing and converting facilities are housed under one roof, allowing its customers to benefit from short turnaround times. The team is also able to accommodate short run orders for niche or small volume printing.

The company has grown with its customers. As their customer's business increases, FPS has been able to accommodate the increasingly larger orders with the same speed, efficiency and quality that they are known for.

This is shown in the development and growth FPS has undergone. Moving to a new site in Richlands in 1998, the company continued to add to its extensive list of products and services. Over the years, FPS has continued to invest in new, innovative technology and machinery, and has established a warehouse and dispatch facility to effectively support their customers' growth.

The FPS team prides itself on listening to its customers, and responding to their needs for example FPS invested in a sleeve machine, installed in March this year, which allows FPS to manufacture eye-catching, high quality, eight colour printed herb and flower sleeves and bread bags.

Technical support is another area of expertise for the FPS team. With an in-house Technical Manager, FPS can provide customers with solutions to any potential technical

problems or issues they are faced with. From specifying film, all the way to learning how their machinery works and customising the product to maximise efficiency, the FPS team prides themselves on their technical support.

Contact details:

www.fpspack.com.au,
E: sales@fpspack.com.au
P: 07 3710 3300.



ProPortion Foods

ProPortion Foods is proud to be celebrating the tenth anniversary of our inaugural HACCP certification. An Australian company, we have been supplying the food service and retail markets with high quality specialist foods for more than 15 years.

One of our core markets is institutional health care. We are now privileged to be one of the leading government-contracted suppliers of food for hospitals in Australia. Hospitals cater to the most vulnerable members of our population: the elderly, children, pregnant women and those recovering from illness. Food safety is rightly one of their highest priorities. Protecting vulnerable populations from food-associated risk factors is vitally important and there is no doubt that patient safety is of the highest concern to healthcare and foodservice staff.

The onus is on the food manufacturer to establish and maintain adequate and appropriate policies and procedures covering all risk elements relating to procurement, production, storage and distribution of the food. ProPortion Foods obtained its initial HACCP certification ten years ago; this, together with our dedication to continual improvement in quality assurance and food safety, provides our customers with the comfort they seek. Without HACCP certification we would be unable to supply our range of desserts and mid-meal snacks to the healthcare industry.



Our company's mission is to create great tasting, nutritious foods for active and healthy aging. Each of us wishes to enjoy life as best we can and diet can play an important role in maintaining good health, or in recovery from illness. Our approach is to adopt a partnership strategy with our customers and the insights provided into their needs and challenges helps direct our product development. In the case of healthcare institutions, consultation with dieticians, nutritionists and food service staff was a key element in the development of our two food service product ranges, Smartserve™ and Perfect Portions.

To assist with the varied needs of institutions we now cater for:

- **those with food allergies,**
- **those who experience difficulties with chewing and swallowing and require texture-modified foods or thickened fluids,**
- **those requiring high protein snacks and additional calcium, as well as**
- **those needing to control blood glucose levels (diabetics).**

In addition, our packaging has been designed to provide increased ease of accessibility, a feature that is especially important for those with limited dexterity. Each of our products is individually-portion controlled and this convenient format helps reduce food handling and increase efficiency. Furthermore, our portion control has significantly reduced food waste.

HACCP certification means more to us than just a certificate representing our demonstrated food safety procedures. It also connects us with a network of reliable expertise in international food safety and a sound source of advice and counsel. This is important for a company that seeks to continually upgrade its performance and to keep itself informed of the latest best practise. Many thanks to our auditors, HACCP Australia, for their support in assisting us to achieve this objective.



Contact details: www.proportionfoods.com.au or phone 1300 302 162.

CTC Australia

CTC Australia's winning formula is to continuously lift our game by setting higher standards.

10 years ago we entered into a partnership with HACCP Australia to gain certification of our warehouse premises and distribution business.

Together we have worked hard to improve every aspect of our business and we appreciate all the help and suggestions which HACCP Australia have provided...cleanliness, orderliness, safety issues, work practises, records, consumer awareness, maintenance

and attention to detail, to name a few.

Today we are a significant supplier of confectionery to both retail and route outlets.

We have an extensive, exclusive range of local and imported lines we proudly, and confidently, thanks to the exacting standards set by HACCP Australia, market to Australian consumers.

Our Aussie Drops mentholated range is very high profile through the trade and loved by young and old, Joojoos, a colourful, exciting range of adventurous fun food experiences is growing exponentially, Fini licorice lines such as Fantasy Belts, Fizzy Worms and Yogurt Bars continue to sell in real volumes and our novelty ranges, including licensed lines, are making their mark rapidly especially in the p&c channel.

We are a proud Australian company, and we are indeed proud to be associated with HACCP Australia and their influence on the quality of our organisation.

Contact details:

+61 2 9743 8631
www.ctcaustralia.com



The Rainbow Syrup Company Pty Ltd

Founded in Brisbane in 2006 The Rainbow Syrup Company has made steady progress as a force in the Australian flavoured syrup and granita concentrate markets, building success based on quality of products and service in an increasingly competitive marketplace.



Together with strategic partner Frosty Boy Australia, The Rainbow Syrup Company has secured supply contracts with leading food service, coffee roasters and retail companies throughout Australia, with products also now being exported to China and South East Asia.

Offering a combination of house brands and exclusive "own label" branding we have continually worked closely with our customers to help develop a bespoke range of innovative products. These include:

- **"All Natural" Flavoured Fruit Juice based Slush concentrates primarily for the ever more discerning schools' market.**
- **A wider range of Juice and Sugar based Granita (frozen beverage) concentrates**
- **Coffee Syrups used for your favourite flavoured Latte**
- **Milk Shake flavourings and smoothie bases**

Across the diverse range produced, there are now more than 120 lines of product, filling



a variety of bottle sizes including 375ml, 750ml, 1, 2, 3, 4 and 5 litres, 20 and 25 litre drums and up to the 200 litre bulk pack.

All our products are manufactured in our purpose built production and filling facility in Brendale on Brisbane's Northside, giving easy access to major freight route services to all States throughout the country.

As our business continues to grow, so does the importance of the food safety systems that we have in place. We are continually updating and adapting our HACCP programme to suit the expansion of the business and the advice and help from HACCP Australia is always a reassuring confirmation that we are keeping 'ahead of the game'.

Contact details: P 07 3205 4931
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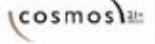
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Allergens-practical control measures in the food industry

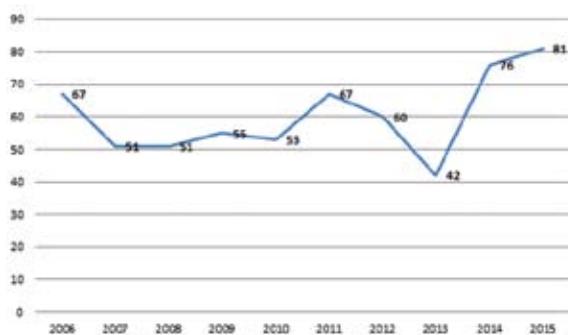
The presence of allergens is the most common reason for triggering a product recall in Australia and data shows a disturbing trend. This trend is occurring at the same time as an increase in the number of allergen-susceptible individual. A study released in 2013 by the Centres for Disease Control and Prevention, showed that food allergies among children increased approximately 50% between 1997 and 2011. These two trends, an increase in allergen recalls and an increase in susceptible individuals pose a concerning scenario for regulators and the food industry.

Recently released figures by the Australian Bureau of Statistics reveal that almost 4 million people in Australia reported avoiding a food type because of allergy or intolerance. Of those, about 560,000 were children aged between two and 18 years. In this group, girls were more likely than boys to be susceptible. The Australasian Society of Clinical Immunology and Allergy (ASCIA) reports that food allergy occurs in around 1 in 20 children and in about 2 in 100 adults.

Figures compiled by Food Standards Australia New Zealand (FSANZ) over the last 10 years indicate an average of 60 food safety recalls per year. Of these, approximately one third on average are due to the presence of undeclared allergens.

The graph below shows the trend in product recalls over the last 10 years.

Number of recalls per year (2006-2015)



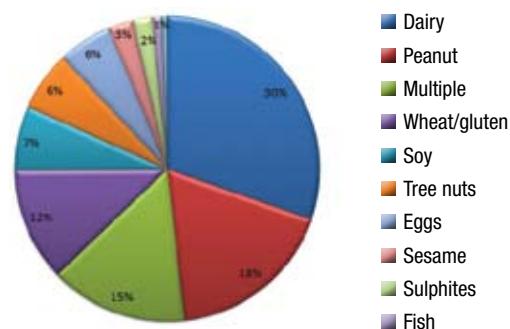
A closer look at the data shows a significant increase in recalls over the last three years to a position exceeding the average by some 30%. Possibly more alarming is the role of allergens in this increase as shown below;

	10 Year Average	2013	2014	2015
Total No Recalls	60	42	76	81
Allergen Recalls	19	16	27	39
% Allergen Recalls	31%	38%	35%	48%

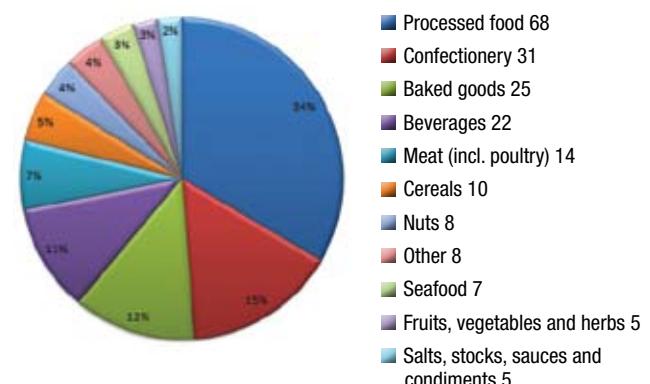
In 2015, allergens accounted for nearly half of all product recalls at a frequency of over three per month on average.

Over 10 years, the most common allergens responsible for a product recall were dairy (30%), peanuts (18%), multiple allergens (15%) and wheat/gluten (12%). Approximately three quarters of all allergen recalls are caused by allergens represented by these four groups. The graph below shows the breakdown of allergens.

Undeclared allergen recalls



Not surprisingly, the majority of allergen based recalls come from complex foods including processed foods (34%), confectionery (15%), baked goods (12%) and beverages (11%). Again, these four groups account for nearly three quarters of all recalls. This indicates a clear relationship between the complexity of the food and process and the likelihood of a product recall due to the presence of undeclared allergens.



A similar picture has emerged in Europe where, according to the European Academy of Allergy and Clinical Immunology (EAACI), about 17 million Europeans have a food allergy. The figures here are perhaps surprising considering the legislative pressure that has been applied to food processors by the European Union, requiring, back in 2005, the mandatory labelling of 12 specified food allergens.

That list has now extended to 14, as specified in the Food Information for Consumers (FIC) Regulations and more are potentially on the horizon.

The issue is also tackled by the GFSI benchmarked Global Food Safety Standards including the British Retail Consortium's (BRC) Global Standard for Food Safety, adopted by approximately 20,000 food processors worldwide, with other standards such as IFS and FSSC 22000 not that far behind.

Within these standards there are stringent, mandatory clauses requiring a processor to perform risk assessment, taking into account the nature and source of allergen and adopt appropriate allergen controls, normally, through a pre-requisite control-based allergen management process.

The aim is to reduce the number of allergen related incidents that require withdrawal or recall from the market.

Practical allergen controls

A HACCP based allergen risk assessment programme is key to allergen management and control. As an example of this approach, the BRC Global Standard for Food Safety requires a risk assessment to establish the presence and likelihood of contamination by allergens plus the implementation of controls taking into account the nature of those allergens (dusts, liquids, solids).

Systems must be implemented to ensure integrity and compliance with specification throughout the supply chain. The following areas, managed as HACCP pre-requisite procedures, can all help to reduce the potential for allergen misinformation or contamination:

- Supplier and ingredient control requires the review and management of supplier ingredient specifications to identify those which intentionally contain allergens and those which may, unintentionally, be contaminated. One of the potential pitfalls here is reformulation of the ingredient by the supplier without the provision of amended and updated specifications. Knowledge of the supplier's allergen management procedures is a factor and can be facilitated by something as simple as an allergen management questionnaire to determine allergen control procedures on the supplier's site and therefore the overall risk of allergen cross contamination by the supplier. This can be followed, as necessary, or where information is scarce, by a formal on-site allergen audit.
- Controlled on-site food storage by the processor requires segregation or other validated control to ensure contamination of non-allergenic foodstuffs or ingredients by allergens is eliminated or reduced to a safe level. For very high risk, low threshold allergens such as nuts this might require entirely separate storage areas. For foodstuffs more likely to be the cause of intolerance, rather than severe anaphylactic shock, such as gluten-containing foods, it may be sufficient to use separate shelves or racks within common storage areas.
- Segregated handling or processing of foods, during production, may require entirely separate processing halls or even factories, especially in the case of high risk allergens such as nuts.

Otherwise, and where risk assessment allows, the processor can employ time separation, so that allergen containing foods are made at the end of the production day and this activity can be followed by a deep "allergen clean down" which might not be possible during shorter, between-batch production breaks. Test kits and methods are quite widely available to measure residual allergen traces following clean down and to help with validation of this control. It is worth remembering that these test kits themselves, when used in-house require validation. Alternatively allergen residual swabs can be tested by an accredited laboratory, having first checked that the scope of accreditation covers such testing.

Nearly one half of recalls are due to undeclared allergens."

- Staff awareness and staff movement control is a key area to consider. Higher risk allergens such as nuts may have to be handled, not only in separate areas, but by separate, visibly identifiable staff, wearing specific, often colour-coded protective clothing. Staff training should always now encompass an element of allergen awareness and competence with regard to allergen management procedures. This training must be provided before food handling duties commence. Staff should be made aware of the types of food allergens that exist and that are legislated for. They should be made aware of potential sources of allergen cross contamination and misinformation such as use of the wrong labels or packaging.
- Control of labels and packaging, especially during product change-over, can prevent a foodstuff entering the market with incorrect or absent allergen warnings. This is a supervisory issue requiring a check that labels and packaging have been correctly changed over when a new product is being packed. The information that must be placed on labels and packaging, with regard to allergens, is a technical management and new product development issue. Common pitfalls are the use of a new or reformulated ingredient, new allergens being handled on site, new equipment being used, new layouts implemented, new production schedules drawn up or new cleaning regimes being put in place. Just as in Principle 6 of Codex HACCP, a review of the allergen risk assessment is crucial to ensure that changes to the allergen status of a product is identified and reflected on the label and packaging.
- Allergen audits can be implemented as part of the internal auditing process. The audit should ideally pick a final, packaged product and trace back through all storage, formulation, processing and packaging steps to the ingredients used, ingredient specifications held and the information supplied by the supplier in regard of their allergen controls. In this way the risk of allergen

contamination and inclusion of intentional allergens can be validated against the allergen declaration and “may contain” information provided on the label or packaging of the chosen product.

- Supplier understanding. Suppliers of ingredients, in particular those which are imported, may not have a clear understanding of allergen requirements in the Australian market. A recent example involved a grade of sugar that contained high levels of sulphur dioxide which was substituted into a blended product resulting in a recall of the finished product. In this case, it appears likely that the supplier was not aware of the intended use of the product or the significance of this allergen under the Australian Food Regulations. Therefore, when considering the use of imported ingredients, it is strongly recommended that the supplier is made aware of the allergen issue and should be encouraged to conduct an allergen review within their operation. Routine verification of imported ingredients and products conducted by the importer is also appropriate and can avoid costly surprises when a product ends up in the marketplace.
- Equipment selection and use, together with materials of construction and design of surfaces such as floors and walls is often overlooked, even when all other allergen management controls are in place. Yet this control is just as important as the others. For instance, as a rough

guide, the higher the IP rating on equipment the less likely it will be for particles of food, some of which may be allergenic of course, to become trapped. In more general terms equipment and materials selection must be influenced by cleanability and accessibility. Ask yourself the following question – Can I access all surfaces easily and are they designed to facilitate a deep “allergen clean down” to prevent them becoming a source of allergen cross contamination.

- The same principle extends to cleaning equipment. In general, those surfaces and pieces of equipment which can be cleaned and then disinfected to reduce to safe levels bacteria such as Listeria monocytogenes should be at minimal risk of being a source of allergen contamination. *

All statistics and graphs; Food Standards Australia New Zealand web page; ‘Food recall statistics’, <http://www.foodstandards.gov.au/industry/foodrecalls/recallstats/Pages/default.aspx>, referenced 15 July 2016.



Martin Stone,
Technical Director,
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HOT LINKS

National allergy strategy

www.allergy.org.au

Essential reading in this environment of increasing allergy incidence, given the weekly recalls experienced due to undeclared allergens. Three out of ten Australians believe they have an allergy or intolerance!

World food day

www.fao.org/world-food-day/2016/home/en/

Feeding the world and toasting farmers ! Big issues here that will directly impact this and future generations.

USA food safety portal

www.foodsafety.gov/

A food safety treasure trove supported by The Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture, the U.S. Food and Drug Administration (FDA), and the Centers for Disease Control and Prevention (CDC).

Chicken food safety

www.chicken.org.au/foodsafety/

Tastes like chicken, yep ! But is it safe ? The Australian Chicken Meat Federation tells you what you need to know in regard to chicken food safety.

The science of food

<http://psufoodscience.typepad.com/>

Our friends at Penn State University have a great web log that serves as a forum for news, views and discussion about all things related to the science of food: food chemistry, microbiology, engineering, process technology, and nutrition. Check it out!

The science of cooking

www.scienceofcooking.com/

And whilst on science, this page seeks to explain all in regard to cooking. Why do cooked foods brown? What is flavour and Umami? The answers to these questions and more here. *

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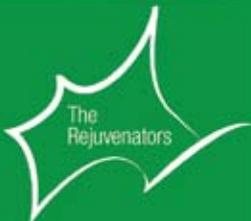
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FACTERIA

Norovirus

Unlike previous editions of Facteria, this issue does not describe a pathogenic bacteria but rather a virus group known as Norovirus.

Other names have previously been used to describe this agent including 'stomach flu', 'Norwalk (like) Virus' and the descriptive 'viral gastroenteritis'. It is probably the most highly contagious infector known which causes food borne illness with an infective dose as low as one virus.

It is likely that 90% of all viral gastroenteritis outbreaks and perhaps 50% of all food borne illness are due to infection by Norovirus. The cost associated with the disease is obviously massive. Infection occurs when Norovirus enters the mouth through either infected food, contact of infected surfaces with hands which then touch the mouth, by breathing the aerosol virus or contact with an infected person. The virus travels to the small intestine where it multiplies rapidly causing an onset of symptoms in around 24 hours (range 12 – 48 hours).

Symptoms include vomiting, diarrhoea, stomach cramps, fever like symptoms and general lethargy. Onset is rapid and it is not unusual for patients describing being fine one minute and violently ill the next. Symptoms persist for 24 – 48 hours and most make a full recovery after this time. Vulnerable populations can demonstrate more severe symptoms and outcomes.

Outbreaks of Norovirus are often observed in closed populations such as nursing homes, cruise ships, overnight camps and prisons where infected persons rapidly pass the illness onto others. One study suggested that a person carrying the virus infected an average of 14 others so the potential to overwhelm a closed population in a short period of time as an epidemic outbreak is significant.

The virus is easily killed with heat and chlorine based sanitisers. Alcohol based sanitisers (like some hand cleansers) are not effective. High levels of hand hygiene and personal hygiene are required to limit the spread of the disease. Those suffering the symptoms should not prepare or handle food for others for at least 48 hours after symptoms cease. After this time, the virus is still present in low numbers for several weeks, so control can only be affected by high levels of personal and hand hygiene.

Norovirus...the number one individual cause of food borne illness outbreaks and an agent that we will hear a lot more from as our knowledge of viruses deepens. *



In this section there are a few food safety and food industry news snippets from around the country and overseas.

From The USA

QSR chain disaster - Chipotle food poisoning story runs and runs



Many in the fast food market will be very familiar with the recent woes of the US 'Quick Service Restaurant' giant, Chipotle, in recent months. The damage to the brand, stock value and customer loyalty runs to hundreds of millions of dollars and still climbs. It's a story which won't stop running, as the creator of 'the new Jason Bourne', Eric Van Lustbader, adds to the tale with recent tweets of his concern for the health of his editor, who ate at one of their stores.

Chipotle has seen the huge consequences of a lack of investment and focus on an area which has little publicity until something goes wrong – and it certainly went wrong in a big way here.

The company's stock value continues to tumble as lingering concerns by once-loyal customers continue to defy the tens of millions of dollars spent on rectification expenditure and incentives

If you want to learn how not to manage food safety in a branded, multi outlet chain, just google Chipotle Food Poisoning to find out what that under-investment and a lack of focus might cost.

It's no coincidence that 'the chains that care have the safest fare.'

From Australia

Rockmelon salmonella hits Australia again

Rockmelons have hit the food poisoning headlines once again as State and Territory food enforcement agencies investigative recent cases of Salmonella, associated with rockmelon from The Northern Territory, following an increase in cases in a number of states in Australia.

The outbreak was first discovered in South Australia and has seen more than eighty five people suffering food poisoning as a consequence.



Food Standards Australia and New Zealand have once again advised that infants, the elderly, pregnant women or people with compromised immune systems, should not consume rockmelon. FSANZ are continuing to work with the state and territory enforcement agencies and the Federal Department of Health and update its advice to consumers.

Investors urged to call for more clarity on food safety risks

According to a recent report in The Australian by Glenda Korporaal, investment bank, Citi, has urged investors in some ASX-listed food businesses to question their policies on safety risks given the potential damage that could be caused by food scares.

The recently released Citi report on food safety praises Fonterra, Bega, MG Unit Trust and Patties Foods for providing detailed information on food safety issues in their annual reports.

But it names a2 Milk Company, Dongfang Modern Agriculture Holdings, Freedom Foods, Treasury Wine Estates, Collins Foods, Domino's Pizza and the Retail Food Group as having the least detail on potential food safety risks in their reports, in its survey of 30 ASX-listed food companies.

"Where information is sparse," it notes, "investors may like to discuss the topic

with companies to better understand their approach to food safety risk."

The report looks at the exposure of the 30 companies to food safety risks and their exposure to the Chinese consumer market, where food safety has become a major issue.

The report notes the growing risk of food safety issues that could affect food companies, such as one involving New Zealand dairy group Fonterra in China and Patties Foods' link to hepatitis in its frozen berries imported from China.

The report says that only half the 30 companies surveyed had identified food safety in the risk section of their annual reports, with more than 25 per cent not mentioning that they held food safety accreditation.

Three-quarters of the companies surveyed reported they had a direct exposure to the Chinese market.

"The reputation of Australian food exports for being safe and high quality has contributed to the significant growth in Australian food exports to China," it says.

"Accredited food safety systems can provide a framework to minimise risk and respond to incidents."

The report notes that Fonterra's report "shows more granular information than most companies" on food safety issues while Patties Foods "provides detailed information on its testing process for products imported from China". But it notes that with these two companies, the relatively comprehensive information they've provided may be a response to the food safety problems they have had to deal with.

The report notes that four of the 30 companies surveyed had systems in place to trace their ingredients and products. These included Blackmores, Bega, Vitaco and Fonterra.

Brisbane restaurant fined after customer finds piece of metal scourer in rice

The risk in using inappropriate material and equipment was realised by a Brisbane Chinese restaurateur with a piece of a metal scourer lodging in the throat of a female customer. It has resulted in a hefty \$23,000 fine.

Last year, a customer, Maxine Dosen



coughed up the piece of metal from the scourer and was rushed to a hospital emergency to check that she had not swallowed more.

The Brisbane magistrate, Judith Daley said 'while it was not known how the piece of metal got into the food, a chef was in the habit of using the scourer to clean a wok during cooking'.

After the incident the chef continued to use the metal scourer, despite staff being told not to do so.

Ms Dosen said she 'I put this fried rice in my mouth and suddenly felt something sharp, like a prawn shell, go down my throat' She continued 'I tried to bring it back up my throat and pulled this long, curly thing out of my mouth.'

Felix Ip, a director of family-owned business pleaded guilty to five charges which also included the selling unsafe food, as well as charge relating to hygiene, failing to take precautions to prevent pests and having live cockroaches in the restaurant.

From China

Chinese investment company to establish a billion dollar food industry fund in Australia

Beijing-based investment management company, Tsing Capital, plans to establish



an AU\$1 billion (US\$752.3 million) fund for specialist food and agriculture investment in Australia.

The funds, under the Food and Agritech Fund, would invest in Australian food and agriculture services for export to China. These will include high tech fermentation and extraction of grains, cane and vegetables, with the intention on supplying the market for health foods and dietary supplements to the Asian country.

The plan is to invest in the entire supply chain, from paddock to consumer, and will therefore include founding processing factories in Victoria's Wimmera region.

Tsing Capital founder and managing partner Don Ye and Australian Charles Hunting plan to raise between AU\$500 million to AU\$1 billion in capital, with the possibility of increasing that amount to AU\$2 billion through loans.

Mr Hunting said that about a third of the funds will come from Australia. He also added that the investment is driven by Chinese demand. "We're not creating the food products for the sake of hopefully getting that food into the Chinese market," he said. "The plan is to bring strategic Chinese investors who have distribution networks in China so that we can create an end-to-end opportunity that is demand driven, not supply driven."

The end products for export to China are likely to include high-protein health supplements, tonics, pills and sports drinks, as well as vitamins and nutraceuticals.

Mr Hunting said the investment will need to fit the company's stance on sustainable ecosystems. "In food and agriculture, we are looking at high-quality food, high-quality agriculture," he said. "We believe in vertical integration but there must be focus on ecosystems."

Providing examples, Mr Hunting said: "We want to bring in biomass solutions, bring in solar solutions and electronic vehicles (to those investments in food businesses)."

The Food and Agritech Fund would be managed by Tsing Capital. The company, which has offices in Beijing, Shanghai, Hong Kong, Silicon Valley in the US and Belgium, has put together eight similar funds with investments totalling AU\$1 billion since Tsing Capital was set up in 2000. *



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The fridge laser that detects bacteria crawling all over food

Spotting the bacteria that causes food poisoning has always been a time-consuming and expensive business. **Until now.**

by Emerging Technology from the arXiv

Food poisoning is a potentially lethal condition and therefore a serious problem for the food industry.

Each year, some 50 million people suffer food poisoning in the U.S. alone, including more than a million cases of potentially lethal salmonella poisoning.

So finding ways to prevent the spread of this and other kinds of bacteria is an important goal. But it is hard to detect bacteria in food products. The most common detection methods involve techniques such as microbiological culturing, polymerase chain reactions, high-performance liquid chromatography, and mass spectrometry, to name just a few.

These methods are complex, expensive, and time-consuming. And they require highly trained technicians to perform them. Consequently, few food companies and outlets have access to this kind of technology, and consumers have to take the hygiene of most foods they buy on trust.

Now that looks set to change thanks to the work of Jonghee Yoon and pals at the Korea Advanced Institutes of Science and Technology in South Korea. These guys have found a quick and cheap way to spot bacteria on the surface of foods in just a few seconds. They say their technique could be easily used in food processing lines and even fitted to standard home fridges.

The new technique is simple in principle. Bacteria such as salmonella have hair-like flagella that they use to propel themselves across surfaces. This movement turns the surface of contaminated food into an ocean of writhing microorganisms. It is this movement that Yoon and co have worked out how to spot.

Their method is straightforward. When a red, coherent laser beam hits biological tissue, it is scattered through the material. This scattering causes the light to interfere, creating a random pattern called laser speckle.

Since bacteria on the surface of food also scatter light, this influences the speckle. And as the bacteria move, the speckle pattern changes. "By detecting the decorrelation in the laser speckle intensity patterns from tissues, the living activities of microorganisms can be detected," say Yoon and co.

All that is needed to monitor this change is a camera that can record the change over a few seconds. Yoon and co use one that takes images at a rate of 30 times a second and then

process the images by subtracting one from another to reveal any difference.

They've put their gear through its paces with a set of experiments on chicken breast. They began by contaminating samples of chicken breast with the common bacteria Escherichia coli and Bacillus cereus, which are common causes of foodborne illness. They then zapped each of the samples, and a control, with a laser while recording the speckle with a camera.

The results clearly show the utility of the technique. The image subtraction technique quickly reveals which samples are contaminated and to what degree. The technique picks up both types of bacterial contamination, although it cannot distinguish between them. It also demonstrates that uncontaminated meat shows little or no change in the laser speckle pattern over time.

That's an interesting result. Monitoring laser speckle is quick and easy to do with cheap equipment that can be retrospectively fitted to food processing lines. And it requires little specialized expertise.

Crucially, the technique does not require contact with the meat and so can be done at a distance. It can also see through transparent plastic packaging, which does not influence the speckle pattern.

That could have an important impact in many parts of the world, particularly in developing countries that do not have easy access to

microbiology laboratories. And the equipment is so cheap and simple that it could easily be fitted to ordinary refrigerators designed for the home.

There are limitations, of course. Although the technique detects different types of bacteria, it cannot distinguish between them. And of course, it cannot spot contaminants that do not change the laser speckle over time. So it wouldn't pick up viral contaminants, such as norovirus, which is responsible for five million causes of foodborne illness a year in the U.S. Neither does it detect the toxins produced by bacteria, which can cause illness even when the bacteria have been killed off.

Nevertheless, the new technique has the potential to significantly improve food hygiene and thereby reduce the number of cases of food poisoning each year. And that can't be bad. *



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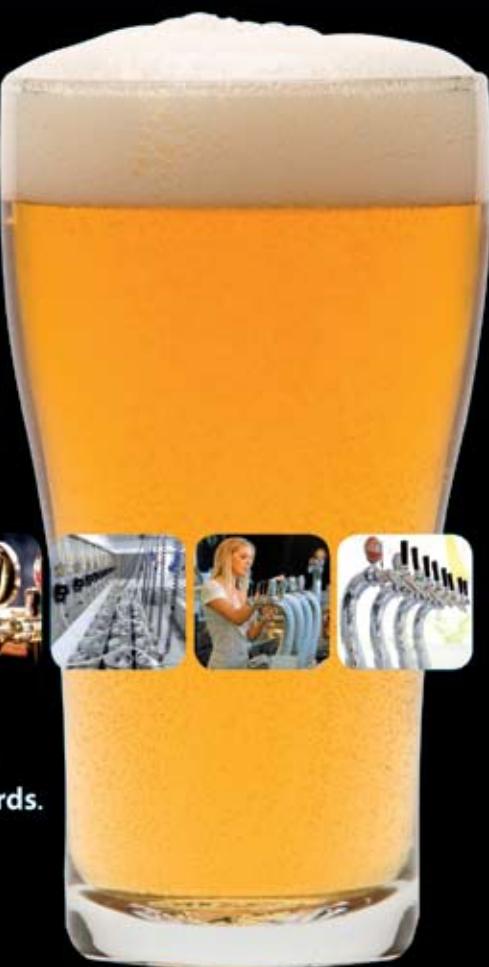


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FSANZ reports on the use of nanotechnology in food additives and packaging

In June, FSANZ commented on two reports prepared in 2015 on its behalf by an expert toxicologist on the potential use of nanotechnologies in existing food additives and food packaging. The reports were then peer reviewed by an expert pharmacologist and toxicologist to evaluate whether the conclusions for each of the reports were supported by the weight of evidence in scientific literature. The peer review agreed with the overall conclusions of the reports.

Nanotechnology describes a range of technologies used to manipulate materials that are generally less than 100 nanometres (nm) in size in one dimension. One nm is one billionth of a metre. Nanoscale materials are not new. Food is naturally composed of nanoscale sugars, amino acids, peptides and proteins, many of which form organised, functional nanostructures.

Some materials when produced in the nano scale do have different properties. Therefore, in responding to nanotechnologies, the focus of FSANZ's work is not on the size of the material, but on materials that are likely to act in a different way biologically or chemically if present in the final food.

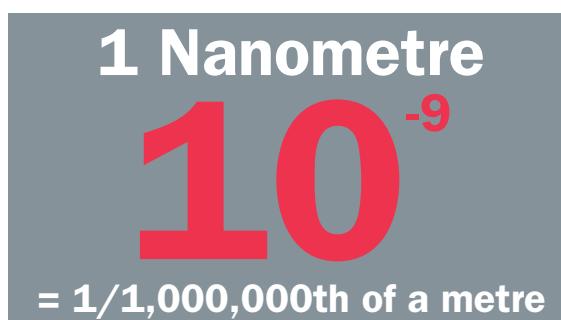
Scope of the work

The consultant was asked to review publicly available scientific literature on whether there is reasonable evidence of health risks associated with oral ingestion of titanium dioxide, silicon dioxide and silver in food. These food additives may contain a proportion of material with at least one dimension in the nanoscale range.

As an extension of this work, evidence of risks to health from nanomaterials used in food packaging was also investigated.

Key findings

- The consultant reviewed the evidence on nanoscale silicon dioxide, titanium dioxide and silver in food and found the weight of evidence does not support claims of significant health risks for food grade materials.
- Titanium dioxide and silicon dioxide are used internationally in a range of food products and have been used safely for decades. They are approved food additives in Australia and New Zealand. Silver is also an approved additive in Australia and New Zealand but is permitted in very few foods.
- Overall, the findings of the report are consistent with recently published information in the OECD's Working Party on Manufactured Nanomaterials Sponsorship Programme for the Testing of Manufactured Nanomaterials toxicological dossiers on silicon dioxide, titanium dioxide and silver.
- There is no direct evidence to suggest novel



nanomaterials are currently being used in food packaging applications in Australia or New Zealand, with most patents found from the United States.

- From the case studies on the use of nano-clay and nano silver in packaging, the report concludes that there is no evidence from the literature of migration of nano-clay from packaging into food. The nanoscale nature of nanosilver (whether used in packaging or food) is also not likely to be dangerous to consumer's health.
- An independent peer review agreed with the overall analysis and conclusions of both reports stating that they were appropriately balanced in their reporting and that none of the nanotechnologies described are of health concern.

What are the implications of these reports for our food supply?

The current regulatory approach for food additives and food packaging relating to the use of nanotechnology in the manufacture of new or novel food products is considered valid by FSANZ and is consistent with international best practice.

FSANZ recognises that this is a rapidly evolving science and conclusions may need to be reviewed as the sophistication and application of nanotechnologies to food and food packaging advances.

FSANZ continues to monitor this rapidly evolving science and will amend its regulatory approach as appropriate.

Where is nanotechnology found in the food industry?

Common applications include:

- **Anti-microbial packaging** - incorporation of nanoparticles that kill bacteria
- **Nutrient Manufacture** - improvement to solubility of vitamins, antioxidants, healthy omega oils and other 'nutraceuticals'.
- **Texture design** - improvement in spreadability and stability using nano-sized crystals and lipids
- **Flavouring** - tricking the tongue with bitter blockers or sweet and salty enhancers
- **Storage qualities** - nano-enhanced barriers to keep oxygen-sensitive foods fresher

Expert advice

FSANZ has set up a Scientific Nanotechnology Advisory Group (SNAG) comprising experts in the fields of nanosafety, pharmacology, nano-food technology, toxicology and nanometrology. The SNAG will advise on the development of guidance for a range of stakeholders, future uses of nanotechnology in food and food packaging and national/international legislation and policy. *

FACT

These products are food safe



The HACCP Australia product certification scheme is particularly aimed at those organisations that are required to supply 'food safe', 'compliant' or 'HACCP approved' products and services to their food safety conscious customers. Such products or services are usually those that have incidental food contact or might significantly impact food safety in their application. Food safety schemes, particularly the leading ones which are GFSI endorsed, require food businesses to subject many such products to a 'due diligence' process and the HACCP Australia certification is designed to meet this. This independent assessment and verification of fitness for purpose offers assurance to the buyer or user that HACCP food safety protocols will not be compromised in using such a product or service correctly and that such a product is 'fit for purpose' in the food industry.

Certified products have been rigorously reviewed by HACCP Australia's food technologists and, in their expert estimation, are manufactured and designed to meet all the appropriate food safety standards. In performing the assessment, they look for 'world's best' in terms of food safety features and characteristics. The food technologists undertaking these reviews all have extensive industry and manufacturing experience. Only products that are assessed as meeting the criteria can carry the mark. Quite often, organisations are required to make modifications to the product, design, delivery, literature or recommendations in order to comply. This process is therefore particularly useful for products that are designed for many industrial applications.

The companies listed below carry a range of excellent food safe products or services certified by HACCP Australia. **For more details, phone 02 9956 6911**

CATERING EQUIPMENT	CHAMPION ED OATES PTY LTD GOLDSTEIN ESWOOD COMMERCIAL COOKING MACKIES ASIA PACIFIC TOMKIN AUSTRALIA	Manufacturers of industrial dish and glass washers Oates utensils and cookware accessories Manufacturers of industrial dish and glass washers Food safe bread loaf pans and bakery trays Food safe kitchen equipment and serving ware	02 9956 6911 1800 791 099 1800 013 123 02 9708 2177 02 8665 4675
CLEANING EQUIPMENT	ABCO PRODUCTS BAXX AUSTRALIA EDCO (EDGAR EDMONDSON) ED OATES PTY LTD HYDRO ECOTECH MAGIC TANK OZ TANK POWER CLEAN TANK/SUPER CLEAN TANK SABCO SOAKTANK AUSTRALIA TERSANO AUSTRALIA	Wet and dry floor cleaning equipment Equipment for the elimination of airborne pathogens Food safe cleaning aids and equipment Full range of food grade cleaning equipment HeKleen Super Alkaline Ionised Water (SAIW) Soak tank and cleaning solution for catering equipment SS deep cleaning tanks and systems for pans and trays Stainless steel soak tank and consumables Wet floor cleaning equipment Soak tank and cleaning solution for catering equipment Aqueous Ozone solution for cleaning and sanitising	1800 177 399 02 9939 4900 02 9557 4411 1800 791 099 0416 808 777 0421 669 915 1300 668 866 02 8338 1891 1800 066 522 1300 427 625 02 8197 9929
CHEMICALS I PEST CONTROL	ACE FILTERS INTERNATIONAL BORG CORPORATE PROPERTY SERVICES CHALLENGER SERVICES GROUP ECOWIZE HOLDING PTY LTD FLICK ANTICIMEX GLENN PETERS SERVICES INITIAL HYGIENE IPS CLEANING AUSTRALIA LOTUS FILTERS TOTAL EXHAUST CLEANING CONTRACTORS THOR MOBILE TRUCK WASH TOTAL VENTILATION HYGIENE WASH IT AUSTRALIA	Food grade cooking oil filters Specialist contract cleaning services for food premises Specialist contract cleaning services for food premises Hygiene and sanitation service providers to the food industry Washroom services for the food industry and premises Specialist contract cleaning services for food premises Bathroom services for the food industry and premises Specialist contract cleaning services for food premises Filters and filter services for range hoods and food facilities Specialist cool room, hoods and kitchen cleaning services Truck and container washing services Specialist cleaning services for the food industry (Sydney region) Food transport vehicle cleaning & sanitisation services	1300 555 204 03 9463 1300 1300 248 249 1800 808 727 1300 656 531 02 9580 4422 1300 731 234 1800 651 729 1300 653 536 0418 192 025 0437 336 344 1300 557 999 1300 927 448
CLOTHING - DISPOSABLE GLOVES AND PROTECTIVE WEAR	BASTION PACIFIC BUNZL CLOROX AUSTRALIA ED OATES EDCO (EDGAR EDMONDSON) ELINE FOOD PROCESSING SUPPLIES KIMBERLY – CLARK PROFESSIONAL LALAN GLOVES SAFETY CARE LIVINGSTONE INTERNATIONAL MCP NEWCASTLE MEDLINE INTERNATIONAL TWO AUSTRALIA PARAMOUNT SAFETY PRODUCTS PREMIER SUPPLIES PRO PAC PACKAGING RCF INTERNATIONAL STEELDRILL HEALTH AND SAFETY THE GLOVE COMPANY UNIVERSAL CHOICE WHOLESALER YAP TRADING COMPANY	Disposable gloves and protective apparel for the food industry Disposable gloves for the food industry Chux® and Astra® disposable gloves for the food industry Reusable gloves for the food industry Reusable gloves for the food industry Protective clothing for the food industry Kleenguard disposable gloves for the food Industry Disposable gloves and protective apparel for the food Industry Disposable gloves and protective apparel for the food Industry Disposable gloves for the food Industry Disposable and reusable gloves for the food industry Disposable gloves for the food industry Disposable gloves for the food industry Disposable and reusable gloves for the food industry Disposable and reusable gloves for the food industry Pro-Val disposable gloves and protective apparel for the food Industry Disposable gloves and protective apparel for the food Industry Disposable gloves for the food Industry Disposable gloves and protective apparel for the food Industry Disposable and reusable gloves for the food industry	02 9714 1110 03 9590 3000 02 9794 9600 1800 791 099 02 9557 4411 02 9804 0757 1800 647 994 03 9706 5609 1300 727 203 02 4966 8898 1800 110 511 03 9762 2500 1300 880 051 02 8781 0600 03 9558 2020 03 9790 6411 02 4916 3000 1300 727 203 02 9826 8299
FACILITY FIXTURES AND FIT OUT	AERIS ENVIRONMENTAL ASSA ABLOY ENTRANCE SYSTEMS BLUCHER (AUSTRALIA) PTY LTD CARONA GROUP DYSON LIMITED ELECTROLUX PROFESSIONAL ELPRESS HALTON JET DRYER LUXURY PAINTS MANTOVA PHOENIKS THORN LIGHTING WURTH AUSTRALIA & NEW ZEALAND	AerisGuard - removable film for coating rangehoods Automatic rapid close doors Stainless steel drainage hardware Coldshield's thermal doors for food premises Suppliers of food safe hand dryers Washers, ironers and finishing equipment Hygenic entrance equipment Suppliers of extraction hoods and ventilation devices Suppliers of food safe hand dryers Specialist coating materials Food grade shelving and storage solutions Suppliers of Gif Activent demountable ventilated ceilings Food safe lighting and fit out solutions for food handling facilities ORSY - organisation system	02 8344 1315 1300 131 010 08 8374 3426 02 4702 6655 1800 426 337 1300 888 948 1800 882 549 0412 702 145 1300 071 041 07 3375 3199 02 9632 9853 1300 405 404 02 4916 3000 1300 657 765
FACILITY DESIGN AND OPERATION SERVICES	ENERGY AND CARBON SOLUTIONS UNIVERSAL FOODSERVICE DESIGNS	Food safe energy efficient solutions Design services for production facilities	1300 130 024 02 4329 0630
FLOORING WALLS AND MATTING	3M ALTRO SAFETY FLOORING AND WALLING BASF CONSTRUCTION CHEMICALS BEHELL FLOORING BLUESCOPE STEEL CLIFFORD FLOORING DEFLECTA CRETSE SEAL FLOWCRETE HYCHEM	Specialist safety matting for food and beverage areas Specialist food premises flooring and wall panels UCRETE® Flooring System Supplier and installers of specialist food premises flooring Colorbond® Permagard® Anti-bacterial Coolroom Panelling Products Flooring installation and maintenance services Anti-bacterial flooring product and services Industrial flooring and commercial resins experts Supplier of specialist food premises flooring	136 136 1800 673 441 1300 227 300 07 3865 3255 1800 222 999 02 4655 1042 03 9318 9315 07 3205 7115 02 4646 1660

FLOORING WALLS AND MATTING CONT.	MATTEK NUPLEX CONSTRUCTION PRODUCTS PROFLOOR EPOXY SYSTEMS PROTECT CRETE ROXSET AUSTRALIA SIKA SILIKAL GmbH THE GENERAL MAT COMPANY & IDENTITY MATTERS	Specialist safety matting for food and beverage areas Food safe floor surfaces for food handling facilities Flooring installation and maintenance services Food safe concrete treatment systems and vinyl flooring solutions Supplier and installers of specialist food premises flooring Sikafloor polyurethane flooring systems Silikal MMA fast cure flooring systems Specialist safety matting for food and beverage areas	1300 305 012 02 9666 0331 02 9894 2732 03 9587 3100 1800 769 738 1300 223 348 03 9662 1775 1800 625 388
FOOD SERVICE EQUIPMENT CLOTHING AND UTENSILS	AACLAIM QUALITY SALES LANCER BEVERAGE SYSTEMS SIX SIMPLE MACHINES SKANISCO SPM DRINK SYSTEMS TANCO THE HUNGRY PRODUCT COMPANY TOMKIN AUSTRALIA	Food service and food storage light equipment Customised beverage dispensing systems The Juggler - Cafe milk tap system Supplier of Kee-seal™ disposable piping bags Soft serve dispenser machine Disposable piping bags (New Zealand) Suppliers of Mooool and Cool Blue disposable piping bags Colour coded catering utensils, catering equipment and piping bags	02 9525 1049 1300 146 744 0402 872 940 07 3279 3358 02 9316 7878 +64 7 549 5675 07 3273 8111 02 8665 4675
HANDCARE CONSUMABLES	ASALEO CARE DEB AUSTRALIA GOJO AUSTRALASIA KIMBERLY – CLARK PROFESSIONAL SOLARIS PAPER	Tork hand hygiene liquids, soap dispenser, hand towels and dispensers Range of cleansers, lotions and dispensers Supplier of hand cleaners and skin conditioner Range of soaps, cleansers, towelling products and dispensers Livi hand towels and dispensers	1800 643 634 1800 090 330 02 9016 3882 1800 647 994 1300 832 883
ICE MACHINES	BIOZONE SCIENTIFIC HOSHIZAKI LANCER	Sanitation system for ice machines Ice machines for hotels, restaurants and catering outlets	1300 070 040 1300 146 744
KITCHEN AND CLEANING	3M ABCO PRODUCTS AERIS ENVIRONMENTAL ASALEO CARE BASTION PACIFIC BUNZL CLOROX AUSTRALIA EDCO (EDGAR EDMONDSON) ED OATES PTY LTD ENVIRO ASSOCIATED PRODUCTS ENVIRONMENTAL FLUID SYSTEMS (EFS) ITW POLYMERS AND FLUIDS KIMBERLY – CLARK PROFESSIONAL RCR INTERNATIONAL SOLARIS PAPER WURTH AUSTRALIA & NEW ZEALAND	Scotch-Brite™ cleaning chemicals, cloths, scourers and sponges Cleanmax heavy duty wipes, scourers and brushware AerisGuard products for air-conditioning and refrigeration systems Tork premium colour coded specialist cloths Multi-purpose cleaning wipes Kwikmaster scouring pads and Katermaster baking and cooking paper Chux®, Astra®, OSO® and Glad® range of materials Disposable cleaning wipes, industrial scourers and scouring sponges Full range of kitchen cleaning materials Veora disposable cleaning wipes Supplier of kitchen cleaning chemicals Food safe aerosol cleaner Disposable cleaning wipes and colour coded Microfiber cloths Proval colour coded wipes Livi colour coded premium wipes and napkins Range of specialist adhesives, solvent cleaners and sealants	136 136 1800 177 399 02 8344 1315 1800 643 634 02 9714 1110 03 9590 3000 02 9794 9600 02 9557 4411 1800 791 099 1300 962 898 1800 777 580 1800 063 511 1800 647 994 03 9558 2020 1300 832 883 1300 657 765
LABELS – FOOD GRADE	LABEL POWER LABEL MAKERS OMEGA LABELS THE VAN DYKE PRESS WEDDERBURN	Food safe labels for food products and food retail Labels, carcass tags and package inserts Food packaging labels Food and beverage labels, lidding and packaging for FMCG Food safe labels for food products and food retail	1300 727 202 1300 735 399 1800 028 924 02 9938 5666 1300 970 111
LUBRICANTS – FOOD GRADE	CRC INDUSTRIES GSB LUBRICATION SERVICES ITW POLYMERS AND FLUIDS LANOTEC AUSTRALIA WURTH AUSTRALIA	Provider of lubricants and lubrication supply systems Provider of lubricants and lubrication services to the food industry Rocol food grade lubricants Suppliers of food grade lubricants Suppliers of food grade lubricants	1800 224 227 1300 660 569 1800 063 511 07 3373 3700 1300 657 765
MAGNETS	ACTIVE MAGNETIC RESEARCH AURORA PROCESS EQUIPMENT MAGNATTACK GLOBAL	Magnetic separation technology and magnet validation services Magnet verification services Food safe magnetic separators for liquids and powders	02 4272 5756 +64 7 847 5315 02 4272 5527
MANAGEMENT SYSTEMS	BRAND M8 GS1 AUSTRALIA	Automated and web-based checklist management systems Recall management system	03 8645 5500 1300 227 263
MANUFACTURING EQUIPMENT	ENERGY AND CARBON SOLUTIONS GARDNER DENVER PULPMASTER AUSTRALIA SEAL INNOVATIONS SICK SMC PNEUMATICS	Compressed air piping systems in food manufacturing processes Servicing and maintenance of compressed air systems Waste processing and storage equipment Plastic and rubber sealing components for food processing Food safe switches, sensors and sensor solutions Suppliers of pneumatics and valves for food manufacturing	1300 1300 24 1800 634 077 02 9525 5252 02 9947 9259 1800 334 802 1800 763 862
PACKAGING MATERIAL	ACHIEVE AUSTRALIA ASTECH PLASTICS CAPS N CLOSURES DALTON PACKAGING EDCO (EDGAR EDMONDSON) FLEXPACK MICROPAK NETPACK RCR INTERNATIONAL	Repacking of consumables and food products Supplier of food safe pails and lids Range of standard and custom designed caps and closures Manufacturers of paper bags and products for the food industry EDCO utility tub (clear) Manufacturers and printers of film packaging Manufacturers of food grade packaging materials Suppliers of food grade netting to small goods manufacturers Pro-Val disposable crate covers	1800 106 661 1300 133 531 03 9793 1500 02 9774 3233 02 9557 4411 07 3710 3300 02 9646 3666 02 9604 4950 03 9558 2020
PEST CONTROL EQUIPMENT AND MATERIALS	AGNOVA TECHNOLOGIES BASF CHEMICALS BASF-GOLIATH, PHANTOM STORM & STRATEGEM AYER BELL LABORATORIES FLICK ANTICIMEX FMC AUSTRALASIA MAKESAFE PEST FREE AUSTRALIA STARKEYS PRODUCTS SYNGENTA ULTRA VIOLET PRODUCTS WEEPA PRODUCTS	Storm secure wax block rodenticide Suppliers of Roguard bait stations Suppliers of rodent and insect control materials Suppliers of rodent and insect control materials Suppliers of rodent control materials and stations Smart - rodent monitoring systems Suppliers of rodent control and insect control materials BaitSafe® rodent bait-station device Specialist electronic vermin elimination devices Range of insect control devices Suppliers of rodent and insect control materials Insect trapper device Weep hole protection devices for new or retro application	03 9889 8100 1800 006 393 1800 006 393 03 9248 6888 0427 802 844 13 14 40 1800 066 355 1300 065 467 02 4969 5515 08 9302 2088 1800 022 035 1800 081 880 07 3844 3744
PEST CONTROLLERS (NSW/ACT)	AEROBEAM PROFESSIONAL PEST MGMT AMALGAMATED PEST CONTROL AVION SERVICES AUSTRALIA CPM PEST & HYGIENE SERVICES CORPORATE PEST MANAGEMENT ECOLAB FLICK ANTICIMEX KNOCK OUT PEST CONTROL	Specialist food premises pest management Specialist pest control services for the food industry Specialist pest control services for the food industry	02 9636 5840 13 19 61 1300 253 799 02 9674 5499 02 9311 1234 13 62 33 13 14 40 1300 858 140

EQUIPMENT PEST CONTROLLERS (NSW/ACT) CONT.	RENTOKIL SCIENTIFIC PEST MANAGEMENT STOP CREEP PEST CONTROL TERMITRUST PEST CONTROL	National pest control services for the food industry National pest control services for the food industry Regional pest control services for the food industry Specialist pest control services for the food industry	1300 736 865 1300 139 840 02 9371 3911 13 73 78
EQUIPMENT PEST CONTROLLERS (QLD)	AMALGAMATED PEST CONTROL ECOLAB FLICK ANTICIMEX RENTOKIL SCIENTIFIC PEST MANAGEMENT SIVTECH COMMERCIAL SERVICES	Specialist pest control services for the food industry Specialist pest control services for the food industry Specialist pest control services for the food industry National pest control services for the food industry National pest control services for the food industry Specialist pest control services for the food industry	13 19 61 13 62 33 13 14 40 1300 736 865 1300 139 840 1300 723 229
EQUIPMENT PEST CONTROLLERS (SA)	ADAMS PEST CONTROL ECOLAB RENTOKIL	Specialist pest control services for the food industry Specialist pest control services for the food industry National pest control services for the food industry	08 8297 8000 13 62 33 1300 736 865
EQUIPMENT PEST CONTROLLERS (VIC/TAS)	ADAMS PEST CONTROL AMALGAMATED PEST CONTROL AVION SERVICES AUSTRALIA DAWSON'S AUSTRALIA ECOLAB FLICK ANTICIMEX HAYES PEST CONTROL PESTAWAY AUSTRALIA PESTOFF PEST CONTROL PROTECH PEST CONTROL RENTOKIL SCIENTIFIC PEST MANAGEMENT STATEWIDE PEST TRAPS PEST CONTROL	Specialist pest control services for the food industry Specialist pest control services for the food industry National pest control services for the food industry National pest control services for the food industry Specialist pest control services for the food industry Specialist pest control services for the food industry	03 9645 2388 13 19 61 1300 253 799 03 9222 7378 13 62 33 13 14 40 1300 553 365 1800 330 073 03 9844 4037 1300 780 980 1300 736 865 1300 139 840 1800 136 200 03 9390 6998
EQUIPMENT PEST CONTROLLERS (WA)	ECOLAB PEST-A-KILL RENTOKIL ROLLINS AUSTRALIA TRADING AS ALLPEST WA SCIENTIFIC PEST MANAGEMENT TERMITRUST PEST CONTROL	Specialist pest control services for the food industry Specialist pest control services for the food industry National pest control services for the food industry Specialist pest control services for the food industry National pest control services for the food industry Specialist pest control services for the food industry	13 62 33 1800 655 989 1300 736 865 08 9416 0200 1300 139 840 13 73 78
EQUIPMENT REFRIGERATORS - EQUIPMENT	CAREL COOLSAN HOSHIZAKI IGLU COLD SYSTEMS (AUSTRALIA) MISA	Temperature controllers and supervisors for refrigeration Manufacturer's of the Chillsafe® sanitization sachet Refrigerators and freezers for hotels, restaurants and catering outlets Refrigerators and freezers for hotels, restaurants and catering outlets Modular cool room and freezer room solutions	02 8762 9200 1300 390 811 1300 146 744 02 9119 2515 1800 121 535
EQUIPMENT REFRIGERATION SERVICES	REJUVENATORS (THE)	Specialist cool room cleaning and rejuvenation services	0407 292 826
EQUIPMENT THERMOMETERS, ANALYTICAL EQUIPMENT AND SCALES	3M IDEXX SCALE COMPONENTS TESTO	TL 20 Temperature logger for logistics Test kits and equipment for microbiological testing of water and ice Weighing equipment for the food industry Specialist thermometers and oil testers for use in the food industry.	136 136 1300 443 399 07 3808 9644 03 8761 6108
EQUIPMENT TRANSPORT CONTAINERS AND PALLETS	SCHUETZ AUSTRALIA VIP PACKAGING	Plastic composite intermediate bulk containers (IBCs) and plastic drums Food grade intermediate bulk containers	1800 336 228 02 9728 8999

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Food Safety Programs

A guide to Standard 3.2.1 *Food Safety Programs*

**Chapter 3 of the Australia New Zealand Food Standards Code
(Australia only)**

First edition, June 2007

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Food Standards Australia New Zealand

Australia:

PO Box 7186
Canberra BC ACT 2610

Australia

Tel: +61 2 6271 2222
Fax: +61 2 6271 2278

Email: info@foodstandards.gov.au

New Zealand:

PO Box 10559
The Terrace
Wellington 6036
New Zealand
Tel: +64 4 473 9942
Fax: +64 4 473 9855
Email: info@foodstandards.govt.nz

Contents

Introduction	1
What is the purpose of the guide?	1
What is the scope of the guide?	1
Is the information in this guide legally binding?	1
Can I provide feedback on this guide?	1
How do I use this guide?	2
Background to the development of Standard 3.2.1	3
Why were national food safety standards developed?	3
What is Standard 3.2.1?	3
What food safety standards were developed?	3
When were the food safety standards adopted?	4
When was Standard 3.2.1 adopted into the Code?	4
Who must comply with Standard 3.2.1 and by when?	5
Standard 3.2.1 <i>Food Safety Programs</i>	7
Interpretation of Standard 3.2.1 <i>Food Safety Programs</i>	13
Purpose	13
Division 1 — Interpretation and application	18
1 Interpretation	18
2 Application of this standard	19
Division 2 — Food safety programs	21
3 General food safety program requirements	21
4 Auditing of food safety programs	28
5 Content of food safety programs	30
6 Fundraising events	41
Appendix 1 Food safety program resources	43
Appendix 2 Example of a support program: pest control	45
Glossary of legally defined terms	46

Introduction

What is the purpose of the guide?

This guide to Standard 3.2.1 *Food Safety Programs* aims to help people who are responsible for enforcing the *Australia New Zealand Food Standards Code* (the Code) to understand the intent of the clauses contained in Standard 3.2.1. It has been developed by Food Standards Australia New Zealand (FSANZ) in accordance with section 7(1)(c) of the *Food Standards Australia New Zealand Act 1991*. A copy of Standard 3.2.1 is included in this guide at pages 9 to 12. The entire Code is available on the FSANZ website at www.foodstandards.gov.au.

What is the scope of the guide?

The guide has been developed to help enforcement officers understand the **general intent** of individual clauses in Standard 3.2.1. It does this by providing, in general terms, an explanation of the legally defined terms and the individual clauses. It also includes examples, where appropriate. This guide does not provide specific guidance on how businesses should develop and implement food safety programs. Enforcement officers seeking more guidance on how to enforce Standard 3.2.1 for food businesses required to comply with this standard should refer to the range of tools, templates and guides developed by the Australian Government and individual state and territory food authorities. (See Appendix 1 for information on how to obtain this guidance material.)

Is the information in this guide legally binding?

No. The guidance provided in the guide is not legally binding—only the clauses in the standard are legally binding. Persons who are uncertain about the meaning of a clause in Standard 3.2.1 can refer to the explanation in this guide for clarification.

As Standard 3.2.1 forms only a part of Australian food legislation, state, territory and enforcement officers should refer also to other standards in the Code and to their state's or territory's legislation, as these may also contain food safety program requirements. For example, in Victoria, all food businesses must already have a food safety program in place (except retail businesses selling low-risk pre-packaged food).

The guide includes examples where these may be helpful in explaining the meaning of a clause. However, neither the explanations in the guide nor the examples are legal requirements for food businesses. The examples given in this guide are used to illustrate how the clause might apply. They should not be taken to be the only instances where the standard would apply.

Can I provide feedback on this guide?

This edition of the guide will be reviewed and amended as necessary. Readers are invited to contact FSANZ if they have suggestions that would improve the guide, or if they believe additional explanation should be included. Feedback should be sent to the addresses on page ii.

FSANZ disclaims liability for any loss or injury directly or indirectly sustained by any person as a result of relying on this guide. Food businesses should seek independent legal advice if they have any queries about their legal obligations under food standards.

How do I use this guide?

This guide provides an explanation of each clause of the standard, in the same order in which they appear in the standard. This interpretation of the standard begins on page 13. A copy of the complete standard (Standard 3.2.1) is on pages 9 to 12.

The definitions in Standard 3.2.1 have also been explained at the beginning of the interpretive section. An alphabetical listing of other definitions that are contained in Standards 3.1.1 *Interpretation and Application*, 3.2.2 *Food Safety Practices and General Requirements* and 3.2.3 *Food Premises and Equipment* and are of relevance to this standard have been included in the Glossary.

The intended outcome for each clause of the standard is set out in a shaded box that precedes the explanation for that clause. For example, for clause 2 Application of this Standard, the outcome is:

This clause specifies the food businesses that must comply with this standard.

These outcomes are not legally binding. They have been included to explain the purpose of each clause.

The text of each clause of the standard is included in bold type throughout the interpretive sections of the guide. The clause, subclause and paragraph numbering and lettering are the same as those in the standard.

For example:

(3) A food business must:

- (a) systematically examine all of its food safety handling operations in order to identify the potential hazards that may reasonably be expected to occur;**

An explanation of paragraph 3(a) then follows this bolded text. In some instances, clause and subclause numbering has been repeated where it is helpful for readers.

Examples are titled and are set out in shaded boxes throughout the text. These examples serve to illustrate the intent of the requirements. For example, within the clause on auditing an example has been included on auditing frequency to illustrate that frequency can change depending on the results of the audit. The example is:

Example of auditing frequency

A state government (that allows third-party auditors) determines that food safety programs for hospitals are to be audited, initially, twice a year. All hospitals in this state would therefore need to arrange for their food safety program to be audited, initially, at least twice a year. Audits could then be done more often (up to four times a year) or less often (once a year), depending on the results of the audit.

Examples have been included for illustrative purposes only and are not legally binding.

Background to the development of Standard 3.2.1

Why were national food safety standards developed?

Australia has one of the safest food supplies in the world. However, foodborne illness is an ongoing problem and one that state, territory and Australian governments are working together to minimise. The national food safety standards specify the requirements that food businesses need to follow to ensure food sold in Australia is safe to eat. These national standards replaced prescriptive food hygiene measures that did not solely focus on food safety and differed across each state and territory. The national food safety standards manage food safety more effectively. They focus on measures to reduce the incidence of foodborne illness and help those food businesses that trade across states and territories by requiring them to follow only one set of food safety requirements.

What is Standard 3.2.1?

Standard 3.2.1 is one of the national food safety standards in Chapter 3 of the *Australia New Zealand Food Standards Code* (the Code) that outline the responsibilities of food businesses—for premises, equipment and food safety practices—to ensure that the food these businesses produce is safe.

What food safety standards were developed?

Four food safety standards were initially developed:

Standard 3.1.1 *Interpretation and Application*

Standard 3.1.1 sets out the interpretation and application provisions that apply to the other food safety standards. For example, it defines terms that are used across more than one of the food safety standards such as ‘safe food’, ‘suitable food’, ‘food business’ and ‘sell’.

Standard 3.2.1 *Food Safety Programs*

Standard 3.2.1 specifies the requirements for food safety programs and is the subject of this guide. Only certain businesses are required to comply with this standard. See pages 5 and 6 for further explanation of the businesses that need to comply. A food safety program is a written document indicating how a food business will control the food safety hazards associated with the food handling activities of the business.

Standard 3.2.2 *Food Safety Practices and General Requirements*

Standard 3.2.2 sets out specific food handling controls related to the receipt, storage, processing, display, packaging, transportation, disposal and recall of food. Other requirements relate to the skills and knowledge of food handlers and their supervisors, the health and hygiene of food handlers, and the cleaning, sanitising and maintenance of the food premises and equipment within the premises. If complied with, these requirements should ensure that food does not become unsafe or unsuitable.

Standard 3.2.2 does not require the food business to keep any records demonstrating compliance with this standard. This is the purpose of Standard 3.2.1. Effectively, Standard 3.2.1 requires the business to set out in a documented food safety program how it will comply with Standard 3.2.2,

how it will monitor compliance with the food safety program, and what action it will take if monitoring finds the food safety program is not being complied with.

All food businesses are required to comply with Standard 3.2.2. However, for some requirements in the standard, there are exemptions for charities and community groups, and also for businesses operating from temporary food premises and from private homes.

Standard 3.2.3 Food Premises and Equipment

Standard 3.2.3 sets out the requirements for food premises, fixtures, fittings, equipment and food transport vehicles. Food businesses that comply with these requirements will find it easier to meet the requirements of Standard 3.2.2. However, as per Standard 3.2.2, for some requirements in the standard there are exemptions for businesses operating from temporary food premises and from private homes.

All food businesses are required to comply with Standard 3.2.3.

When were the food safety standards adopted?

In August 2000, three of the national food safety standards were adopted into Chapter 3 of the Code for application in Australia only. These are:

Standard 3.1.1 Interpretation and Application

Standard 3.2.2 Food Safety Practices and General Requirements

Standard 3.2.3 Food Premises and Equipment

These three standards have now been incorporated into state and territory law and therefore all food businesses must comply with these standards.

The fourth standard, 3.2.1 *Food Safety Programs*, was not adopted in August 2000 because governments wanted more work to be done on the costs and benefits of food businesses implementing food safety programs.

When was Standard 3.2.1 adopted into the Code?

While awaiting the outcome of the additional work on the costs and benefits of food businesses implementing food safety programs, Ministers agreed in November 2000 to gazette Standard 3.2.1 as a model standard. This was to allow states and territories that wanted to introduce a food safety program requirement for some classes of food businesses (earlier than being proposed nationally) to do so by adopting Standard 3.2.1.

In December 2003, when the work on costs and benefits of food safety programs was completed, the Australia New Zealand Food Regulation Ministerial Council endorsed the *Ministerial Policy Guidelines on Food Safety Management in Australia* (Ministerial Policy Guidelines).¹ These guidelines identify those food businesses that should be required to have a food safety program as defined in Standard 3.2.1 based on the food safety risk they pose. The following four food industry sectors were identified as being high risk:

- food service in which potentially hazardous food is served to vulnerable populations

¹ This guideline is available from the Food Regulation Secretariat's page of the Department of Health and Ageing's website www.health.gov.au.

- the harvesting, processing and distribution of raw oysters and other bivalves
- catering operations serving food to the general public
- the production of manufactured and fermented meat.

In determining the businesses that should be required to have a food safety program, the following was referred to:

- data from a national surveillance system called OzFoodNet² that keeps track of and reports on outbreaks of foodborne illness, its incidence in Australia and its causes
- a report called *Food safety management systems: costs, benefits and alternatives* (May 2002)³ that examined closely the costs for businesses in having a food safety program, the benefits for consumers of this approach and other systems that might deliver a similar level of food safety
- the findings of the National Risk Validation Project (May 2002)⁴ that identified the food handling sectors in Australia that posed the greatest food safety risk.

Who must comply with Standard 3.2.1 and by when?

High-risk sectors

In accordance with the Ministerial Policy Guidelines, FSANZ has developed standards requiring food safety programs in three of the four high-risk sectors identified above. A standard for the remaining high-risk sector, catering, is still under development. Further detail is provided below.

1. Food service in which potentially hazardous food is served to vulnerable populations

On 5 October 2006, FSANZ gazetted Standard 3.3.1 *Food Safety Programs for Food Service to Vulnerable Persons*. This standard requires food businesses that prepare food for service to vulnerable persons to implement a food safety program in accordance with Standard 3.2.1. This will normally include food businesses providing food to hospital patients, aged care residents and children in child care centres. It will also normally apply to businesses that deliver meals, that is, organisations that prepare food for delivery to vulnerable persons. Food businesses required to comply with this standard have until 5 October 2008 to have a food safety program in place.

2. The harvesting, processing and distribution of raw oysters and other bivalves

On 26 May 2005, FSANZ gazetted Standard 4.2.1 *Primary Production and Processing Standard for Seafood*, which is currently being implemented by the states and territories. This standard requires food safety management systems for the production and processing of raw oysters and other bivalves. To comply with the requirement for a food safety management system, businesses can comply with Standard 3.2.1. However, Standard 4.2.1 also lists other compliance options such as implementing the Codex Alimentarius Hazard Analysis Critical Control Point (HACCP) system. HACCP and the Codex HACCP system are further explained on pages 13 to 17.

2 More information on OzFoodNet is available from the website at www.ozfoodnet.org.au.

3 This report was prepared by the Allen Consulting Group Pty Ltd for the Department of Health and Ageing. It is available from this Department's website at www.health.gov.au.

4 This report was prepared by Food Science Australia and Minter Ellison Consulting for the Department of Health and Ageing. It is available from this Department's website at www.health.gov.au.

3. Catering operations serving food to the general public

FSANZ is currently working on a standard to require businesses that engage in certain off-site and on-site catering activities to develop and implement a food safety program in accordance with Standard 3.2.1. An advisory group comprising industry, government and consumer representatives is assisting FSANZ with this proposal (P290 – Food Safety Programs for Catering Operations for the General Public). When a standard is gazetted, food businesses covered by the standard will be required to have a food safety program in place two years from the date of gazettal.

4. The production of manufactured and fermented meat

On 26 November 2005, FSANZ gazetted requirements for producers of manufactured and fermented meats in Standard 4.2.2 *Primary Production and Processing Standard for Poultry Meat* and Standard 4.2.3 *Production and Processing Standard for Meat*. Producers of manufactured and fermented meats have two years to comply with these requirements, that is, 26 November 2007. These requirements do **not** require compliance with Standard 3.2.1. Businesses to which Standards 4.2.2 or 4.2.3 apply must develop a food safety management system in accordance with these standards and therefore need to refer to Standards 4.2.2 and 4.2.3.

Other food businesses

FSANZ is also developing other standards for the primary production sector. Within these standards primary production businesses may be required to implement a documented food safety program as defined in Standard 3.2.1 or this may be one of several options for implementing a food safety system. On 5 October 2006, Standard 4.2.4 *Primary Production and Processing Standard for Dairy Products* was gazetted. This standard begins on 5 October 2008. Dairy businesses to which this standard applies are required to implement a documented food safety program as defined in Standard 3.2.1. Primary production standards currently under development are those for the poultry and egg sectors. Standards will also follow for the meat and horticultural sectors.

Irrespective of this work, all food businesses in Victoria must already have a food safety program (except retail businesses selling low-risk pre-packaged food). For more information refer to www.health.vic.gov.au/foodsafety.

Other jurisdictions may also require businesses to have HACCP-based food safety systems in place. Therefore, all food businesses need to check with their local authority for the requirements that apply in the state or territory where the business is located.

Standard 3.2.1

Food Safety Programs

Standard 3.2.1

Food Safety Programs

(Australia only)

Purpose

This Standard is based upon the principle that food safety is best ensured through the identification and control of hazards in the production, manufacturing and handling of food as described in the Hazard Analysis and Critical Control Point (HACCP) system, adopted by the joint WHO/FAO Codex Alimentarius Commission, rather than relying on end product standards alone. This standard enables states and territories to require food businesses to implement a food safety program based upon the HACCP concepts. The food safety program is to be implemented and reviewed by the food business, and is subject to periodic audit by a suitably qualified food safety auditor.

Contents

Division 1 — Interpretation and application

- 1 Interpretation
- 2 Application

Division 2 — Food safety programs

- 3 General food safety program requirements
- 4 Auditing of food safety programs
- 5 Content of food safety programs
- 6 Fund raising events

Division 1 — Interpretation and application

1 Interpretation

In this Standard –

auditing frequency means the most recently determined frequency of auditing determined by the appropriate enforcement agency, or a food safety auditor, in accordance with the Act.

food safety program means a food safety program that satisfies the requirements of clause 5.

food safety auditor means a person approved as a food safety auditor under the Act as a person competent to audit the relevant class of food business.

Editorial note:

Jurisdictions may approve environmental health officers, private contractors, or a mixture of the two as food safety auditors.

monitoring includes checking, observing or supervising in order to maintain control.

2 Application of this Standard

- (1) This Standard applies to food businesses in Australia in accordance with Standard 3.1.1 and subclause (2).
- (2) This Standard applies to all food businesses that are determined by the appropriate enforcement agency under the Act to be within a priority classification of food business from the commencement date for that priority classification of food business.

Replacement subclause 2(2) to commence on 26 May 2006

- (2) Unless expressly provided elsewhere in this Code, this Standard applies to all food and primary food production businesses that are determined by the appropriate enforcement agency under the Act to be within a priority classification of food business from the commencement date for that priority classification of food business.

Editorial note:

Under the Act, the appropriate enforcement agency must determine the priority classification of individual food businesses.

Jurisdictions may determine the mechanism by which a priority classification system and date of commencement is established, i.e. by regulation or declaration.

Division 2 — Food safety programs

3 General food safety program requirements

A food business must:

- (a) systematically examine all of its food handling operations in order to identify the potential hazards that may reasonably be expected to occur;

- (b) if one or more hazards are identified in accordance with paragraph (a), develop and implement a food safety program to control the hazard or hazards;
- (c) set out the food safety program in a written document and retain that document at the food premises;
- (d) comply with the food safety program; and
- (e) conduct a review of the food safety program at least annually to ensure its adequacy.

4 Auditing of food safety programs

A food business must:

- (a) ensure that the food safety program is audited by a food safety auditor at the auditing frequency applicable to the food business;
- (b) make the written document that sets out the food safety program, and the appropriate records referred to in paragraph 5(f), available to any food safety auditor who has been requested to conduct an audit of the food safety program; and
- (c) retain copies of all written reports of the results of all audits of the food safety program conducted by a food safety auditor within the last four years, for inspection upon request by a food safety auditor who audits the food safety program or an authorised officer.

Editorial note:

ANZFA has developed food safety auditor approval criteria for food safety auditors in conjunction with the states and territories.

5 Content of food safety programs

A food safety program must:

- (a) systematically identify the potential hazards that may be reasonably expected to occur in all food handling operations of the food business;
- (b) identify where, in a food handling operation, each hazard identified under paragraph (a) can be controlled and the means of control;
- (c) provide for the systematic monitoring of those controls;
- (d) provide for appropriate corrective action when that hazard, or each of those hazards, is found not to be under control;
- (e) provide for the regular review of the program by the food business to ensure its adequacy; and

- (f) provide for appropriate records to be made and kept by the food business demonstrating action taken in relation to, or in compliance with, the food safety program.

6 Fund raising events

A food business does not have to prepare a food safety program in accordance with this Standard in relation to fundraising events conducted by the food business, that is, events that raise funds solely for community or charitable causes and not for personal financial gain.

Interpretation of Standard 3.2.1 Food Safety Programs

Purpose

This standard is based upon the principle that food safety is best ensured through the identification and control of hazards in the production, manufacturing and handling of food as described in the Hazard Analysis and Critical Control Point (HACCP) system, adopted by the joint WHO/FAO Codex Alimentarius Commission, rather than relying on end product standards alone. This standard enables states and territories to require food businesses to implement a food safety program based upon the HACCP concepts. The food safety program is to be implemented and reviewed by the food business, and is subject to periodic audit by a suitably qualified food safety auditor.

The above section appears at the beginning of Standard 3.2.1 and explains the purpose of the standard. Further explanation of this section, and thereby the purpose of the standard, is provided below.

What is HACCP?

HACCP, or the Hazard Analysis Critical Control Point system, is a way of ensuring that food is safe. It provides a formal method for food businesses to manage the safety of food as it is prepared and processed within the business. It requires businesses to:

- identify what food safety problems could occur (food safety hazards) at each stage of food production. For example, if cooked food is cooled too slowly, food poisoning bacteria can grow to dangerous levels
- identify where these food safety problems can be controlled (that is, the steps during the production of the food where controls can be put in place), for example the cooling step
- put in place specific controls, including the criteria which separates acceptability from unacceptability, to make sure that these food safety problems do not occur. For example, establish a cooling procedure that cools cooked food from 60°C to 21°C within 2 hours and from 21°C to 5°C within a further 4 hours, such as using shallow trays for cooling in the refrigerator
- monitor these controls to make sure that they are in place and working. For example, check that the cooling procedure is being followed
- take action if monitoring finds that a control is not working and consequently a food safety problem could have occurred (this is referred to as corrective action). For example, if monitoring finds that the cooling procedure has not been followed, discard the food and carry out a follow-up investigation to determine why the procedure was not followed so that any problems can be resolved
- keep records of monitoring and corrective actions so that the business has confidence that the food safety controls in place are working correctly and can demonstrate this to others, for example government enforcement officers

- regularly review the entire HACCP system to make sure that it is being followed, it covers all the food handling activities of the business and any necessary changes are made for the system to maintain the safety of the food handled by the business.

Food businesses already take steps to make sure that the food they produce is safe. However, HACCP provides a formal documented system for businesses to ensure that nothing is missed.

Where did the HACCP concept come from?

HACCP was developed in the 1960s in the United States by the Pillsbury Company for the National Aeronautics and Space Administration (NASA), to ensure the safety of the food provided for the astronauts. The existing system of testing a sample of food for safety was not considered adequate enough for astronauts, as testing a sample of a batch of food does not guarantee the safety of the entire batch. NASA wanted a system that ensured all food provided to astronauts was safe all the time. The HACCP system ensured this by requiring the companies that manufactured food for astronauts to systematically control all potential food safety hazards at every step of the food's manufacture, and to keep records to demonstrate this was occurring.

What is ‘Codex HACCP’?

‘Codex HACCP’ is the HACCP system specified within the *Basic texts on food hygiene, third edition*.⁵ This document was developed by the Codex Alimentarius Commission (Codex). Codex was created in 1963 by the Food and Agriculture Organization (FAO) and the World Health Organization (WHO) to develop international food standards, guidelines and related texts such as codes of practice under the Joint FAO/WHO Food Standards Programme. The Codex Alimentarius, or the food code, has become the global reference on food standards. The HACCP system specified within the *Basic texts on food hygiene* is therefore the international reference to HACCP.

The Codex HACCP system consists of the following seven principles:

- 1 Conduct a hazard analysis.⁶
- 2 Determine the critical control points (CCPs).⁷
- 3 Establish critical limit(s).⁸
- 4 Establish a system to monitor control of the CCP.
- 5 Establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control.
- 6 Establish procedures for verification to confirm that the HACCP system is working effectively.
- 7 Establish documentation concerning all procedures and records appropriate to these principles and their application.

-
- 5 For a copy of this document, see <www.codexalimentarius.net> under ‘Official standards’—‘Special publications’.
 - 6 A hazard analysis is the process of collecting and evaluating information on food safety hazards and conditions leading to their presence to decide which are significant for food safety and therefore should be addressed in the HACCP system.
 - 7 A critical control point is a step during food production at which control can be applied and is essential to prevent or eliminate a food safety hazard or reduce it to an acceptable level.
 - 8 A critical limit is a criterion that separates acceptability from unacceptability.

Why is Standard 3.2.1 based on Codex HACCP?

The requirements of Standard 3.2.1 are not identical to the principles of HACCP as set out within the Codex *Basic texts on food hygiene*. However, the outcome is the same: a documented system in place that identifies and controls potential food safety hazards. The table below compares the seven principles of HACCP with Standard 3.2.1. The main differences are then further discussed.

Table 1: Comparison between the seven principles of Codex HACCP and Standard 3.2.1 Food Safety Programs

Seven principles of HACCP	Comparison with Standard 3.2.1
1 Conduct a hazard analysis.	Paragraph 3(a) requires a food business to systematically examine all of its food handling operations in order to identify the potential hazards that may reasonably be expected to occur.
2 Determine the critical control points (CCPs). (Codex recommends businesses have in place prerequisite programs (or support programs) before they implement HACCP and therefore it is primarily the CCPs that should remain.)	Paragraph 5(b) requires a food safety program to identify where, in a food handling operation, each hazard identified can be controlled. CCPs do not need to be identified separately. This means the food safety program must identify the point where all hazards (reasonably expected to occur) can be controlled. This will include the use of support programs to control hazards that are common across food handling steps.
3 Establish critical limits.	Paragraph 5(b) requires a food safety program to identify the means of control. This would mean establishing the criteria that separates acceptability from unacceptability at each of the control points. If the control is through a support program, the program would have to specify these criteria.
4 Establish a system to monitor control of the CCP.	Paragraph 5(c) requires a food safety program to provide for the systematic monitoring of those controls. This would include monitoring compliance with support programs.
5 Establish the corrective action to be taken when monitoring indicates a particular CCP is not under control.	Paragraph 5(d) requires a food safety program to provide for appropriate corrective action when that hazard, or each of those hazards, is found not to be under control.

Continued

Seven principles of HACCP	Comparison with Standard 3.2.1
6 Establish procedures for verification to confirm that the HACCP system is working correctly.	Paragraph 5(e) requires a food safety program to provide for the regular review of the program by the food business to ensure its adequacy.
7 Establish documentation concerning all procedures and records appropriate to these principles and their application.	Paragraph 5(f) requires a food safety program to provide for appropriate records to be made and kept by the food business demonstrating action taken in relation to, or in compliance with, the food safety program.

Explanation of main differences between Codex HACCP and Standard 3.2.1

Standard 3.2.1 requires the business's food safety program to identify and control all potential food safety hazards whereas Codex HACCP focuses on the critical hazards and controls.

It is essential that businesses control all potential food safety hazards that may reasonably be expected to occur in the food handling operations of the business.

Codex HACCP achieves this by recommending businesses have in place prerequisite programs (or support programs) before they implement a HACCP system. Examples of support programs include staff health and hygiene, cleaning and sanitation, pest control, approved supplier, food disposal, equipment calibration and maintenance. These programs normally control hazards that apply across the food handling activities of the business. For example, a pest control program controls the microbiological and physical hazards of pest infestation of food.

Standard 3.2.1 achieves this by requiring the food safety program to identify and control all potential hazards (reasonably expected to occur). This means the food safety program must include:

- documented support programs to control the hazards that apply across food handling activities
- documented controls for the remaining hazards that are more specific to the food handling activities of the business. Hazards specific to a food handling step such as storage and cooking are normally controlled at the step and set out in a table.

The outcome of both systems is the same. All hazards must be documented and controlled.

Standard 3.2.1 requires all hazards identified to be controlled; Codex HACCP requires a hazard analysis to be conducted to focus controls on critical hazards.

Standard 3.2.1 requires all identified hazards to be controlled within the food safety program. As stated above, this is to ensure that the food safety program includes documented support programs. Because Codex recommends that these support programs be put in place before the business implements Codex HACCP, Codex HACCP need only focus on the critical hazards as all other hazards should already have been controlled by the support programs.

Standard 3.2.1 includes additional requirements to Codex HACCP.

Standard 3.2.1 includes additional requirements, as it is a legal standard that will be enforced to assess whether food businesses are meeting its requirements. For example, it requires food businesses to comply with the food safety program and to set out the program in a written document. Codex HACCP is not a legal standard, but a code of practice outlining the principles of HACCP and how it can be implemented.

Why are food safety programs being mandated for certain categories of businesses?

While all food businesses must comply with the food safety practices specified within Standard 3.2.2 *Food Safety Practices and General Requirements*, it is considered necessary for businesses that are identified as high risk and where the benefits of implementing a food safety program outweigh the costs to comply with the additional requirements of Standard 3.2.1. Essentially this requires the business to demonstrate that it is complying with Standard 3.2.2 by writing this down in a food safety program, and monitoring this program to make sure that the program is being followed. Specifically, the business must:

- carefully examine all its food handling operations to identify any potential hazards
- if one or more hazards are identified, develop a food safety program to control the hazard(s)
- set the food safety program in a written document and retain that on the premises
- comply with the program
- conduct a review of the program at least annually to make sure it is adequate.

See ‘Who must comply with Standard 3.2.1 and by when?’ on pages 5 and 6 for an explanation of the businesses that must comply with this standard.

Division 1 — Interpretation and application

1 Interpretation

This clause defines words applicable to this standard only.

The definitions in Standard 3.1.1 *Interpretation and Application* also apply in this standard. If a term is not defined in this standard or in Standard 3.1.1, the most recent edition of *The Macquarie dictionary*, published by The Macquarie Library Pty Ltd, should be referred to.

Some definitions and clauses refer to the ‘Act’. This means the relevant state or territory Act that refers to the *Australia New Zealand Food Standards Code* as legislation in that jurisdiction. This is usually the state’s or territory’s food Act or primary production Act.

1 In this Standard –

auditing frequency means the most recently determined frequency of auditing determined by the appropriate enforcement agency, or a food safety auditor, in accordance with the Act.

How often a food business is audited is decided by the enforcement agency that has jurisdiction. Auditing frequency may be specified within state or territory legislation, in guidelines or in another instrument.

food safety program means a food safety program that satisfies the requirements of clause 5.

Clause 5 states:

A food safety program must:

- (a) systematically identify the potential hazards that may be reasonably expected to occur in all food handling operations of the food business;
- (b) identify where, in a food handling operation, each hazard identified under paragraph (a) can be controlled and the means of control;
- (c) provide for the systematic monitoring of those controls;
- (d) provide for appropriate corrective action when that hazard, or each of those hazards, is found not to be under control;
- (e) provide for the regular review of the program by the food business to ensure its adequacy; and
- (f) provide for appropriate records to be made and kept by the food business demonstrating action taken in relation to, or in compliance with, the food safety program.

A detailed discussion of the intent of clause 5, subclauses (a) to (f) is contained on pages 31 to 40 of this guide.

food safety auditor means a person approved as a food safety auditor under the Act as a person competent to audit the relevant class of food business.

A food safety auditor is a person approved under the state or territory food Act where the business is located to carry out a food safety audit for a particular class of business. For example, an auditor may be approved to audit seafood businesses but not hospitals. This is because the audit competencies required are different for these types of businesses.

There is an editorial note in clause 1 of Standard 3.2.1 that ‘jurisdictions may approve environmental health officers, private contractors, or a mixture of the two as food safety auditors’. Each jurisdiction is responsible for approving auditors. This may be in accordance with agreed national criteria. State and territories may provide information, on their websites, on the auditors that have been approved within their jurisdiction.

The duties of food safety auditors and the reporting requirements are specified within each state or territory food Act.

Normally the duties of a food safety auditor are to:

- carry out initial audits of food safety programs at the frequency determined by the enforcement agency
- determine subsequent audit frequencies within the range appropriate for the priority classification of the business (that is, whether it is classified as high-, medium- or low-risk)
- assess food businesses for compliance with the food safety standards (including the food safety program requirements)
- carry out follow-up action to ensure that nonconformances (matters where the business does not comply with the food safety standards, including the food safety program requirements) have been rectified
- report the outcomes of the audit to the appropriate enforcement agency.

monitoring includes checking, observing or supervising in order to maintain control.

Monitoring is a way of making sure that identified hazards are kept under control. For example, the practices of staff can be observed to assess whether food safety procedures are being followed. Monitoring activities need to be written down so it can be demonstrated that the identified hazard has been controlled or that corrective action has been taken when a hazard is found not to be under control. For example, a check list can be used to indicate whether staff are following correct procedures. This check list should allow for enough room to write down what action is taken if it is observed that the correct practices are not being followed.

2 Application of this standard

This clause specifies the food businesses that must comply with this standard.

2(1) This Standard applies to food businesses in Australia in accordance with Standard 3.1.1 and subclause (2).

Standard 3.1.1 says that the standards within Chapter 3 apply to all food businesses in Australia but not in New Zealand. With respect to Standard 3.2.1, it means the standard can be applied in

Australia in accordance with subclause (2) below. A ‘food business’ is defined and does not include ‘primary food production’. However, while the Chapter 3 standards do not normally apply to primary food producers, subclause 2(2) permits Standard 3.2.1 to be applied to primary food production businesses.

Information about food safety programs in New Zealand is available on the New Zealand Food Safety Authority’s website at www.nzfsa.govt.nz.

2(2) Unless expressly provided elsewhere in this Code, this Standard applies to all food and primary food production businesses that are determined by the appropriate enforcement agency under the Act to be within a priority classification of food business from the commencement date for that priority classification of food business.

Subclause 2(2) allows Standard 3.2.1 to be applied to a food business or primary food production business based on a priority classification system. Priority classification is a system that classifies food businesses into risk categories based on the type of food, activity of the business, method of processing and customer base. The method of classification is decided by the state or territory where the food business is located and may be based on a national model. For example, a particular state or territory could decide that all food businesses within the state or territory that are classified as high-risk must comply with this standard. In Victoria, all food businesses must already have food safety programs in place (except retail businesses selling low-risk pre-packaged food). See www.health.vic.gov.au/foodsafety for more information.

At a national level, the Australia New Zealand Food Regulation Ministerial Council agreed to the *Ministerial Policy Guidelines on Food Safety Management in Australia* in December 2003. These guidelines propose that food safety programs be mandatory for four high-risk food industry sectors (in Australia only). The four high-risk sectors are:

- food service, where potentially hazardous food is served to vulnerable populations
- the harvesting, processing and distribution of raw oysters and other bivalves
- catering operations serving food to the general public
- the production of manufactured and fermented meat.

To make it compulsory for these high-risk food industry sectors to implement food safety programs, FSANZ has written separate standards for each sector rather than using this subclause to apply Standard 3.2.1 to these sectors. This enables FSANZ to include the definitions necessary to apply the standards and other requirements or exemptions specified within the Ministerial Policy Guidelines or other matters considered necessary during the development of each standard.

The new standards are:

- 1 Standard 3.3.1 *Food Safety Programs for Food Supplied to Vulnerable Persons*
- 2 Standard 4.2.1 *Primary Production and Processing Standard for Seafood*
- 3 Standard 3.3.2 *Food Safety Programs for Catering*
- 4 Standard 4.2.2 *Primary Production and Processing Standard for Poultry Meat* (Division 3 — Production of ready-to-eat poultry meat) and Standard 4.2.3 *Primary Production and Processing Standard for Meat* (Division 3 — Production of ready-to-eat meat).

See ‘Who must comply with Standard 3.2.1 and by when?’ on pages 5 and 6 for further explanation of these standards and the businesses that must comply with Standard 3.2.1.

Division 2 — Food safety programs

3 General food safety program requirements

If a food business identifies one or more hazards in its food handling operations, it must:

- develop a written food safety program
- follow the five steps specified in this clause
- comply with that food safety program and regularly review it.

Clause 3, subclauses (a) to (e) list five things a food business must do when developing its food safety program. Clause 3 (what the business must do) sits closely alongside clause 5 (what should be in the food safety program).

Merely having a documented food safety program is not sufficient. The food business must be able to show that it:

- has systematically identified all of the food handling activities of the business
- has identified and written down any hazards, and has identified the control measures necessary to control those hazards
- has written the document in English and in a form that meets the requirements of clause 5 of Standard 3.2.1
- is complying with its food safety program, and provides for the regular review of that program.

The five key steps in developing a food safety program are discussed below in more detail.

3 A food business must:

3(a) systematically examine all of its food handling operations in order to identify the potential hazards that may reasonably be expected to occur;

The food business must, in a systematic way, examine all of its food handling activities to identify any potential hazards. To ‘systematically examine’ food handling operations, the food business should list all the steps in its food operations, beginning with receiving food (including ingredients) into the business and finishing with the final step.

‘Food handling operation’ is defined in Standard 3.1.1 as ‘any activity involving the handling of food’ and can include delivery, storage, preparation, cooking, chilling, reheating, serving, display and transportation. This is not an exhaustive list and food businesses need to look closely at all the food handling activities of the business, as these will vary from business to business according to the work done.

Example of systematically examining food handling activities

A hospital kitchen identifies the following food handling steps:

- 1 food receipt (includes assessing food for safety and suitability when it is received from suppliers to assess its compliance against the business's specifications)
- 2 food storage: placing food into dry or cold/frozen storage
- 3 food preparation: includes washing, chopping/slicing/mincing, adding other ingredients, mixing
- 4 cooking
- 5 cooling for cooked foods that are to be cooled
- 6 storing prepared foods in cool rooms (when not served immediately)
- 7 reheating
- 8 plating and identifying meals on trays
- 9 delivery to patients
- 10 return of leftover food.

The food handling steps in the above example can be illustrated in the form of a flow diagram (see the diagram opposite). A food business can use guidance material to help it identify the steps in its operations. If guidance material is used, however, the business must make the necessary modifications to include all of the steps identified for the business. For example, the business may need to add extra steps or make amendments to ensure that the steps accurately reflect what the business does.

When the business has listed the steps in its food operations, it must look carefully at each step to identify potential hazards that may be reasonably expected to occur for each step.

'Reasonably expected to occur' means the hazard is foreseeable, typical or likely to occur due to the specific nature, storage, transportation, preparation or handling of the food. For example, a potential hazard that is reasonably likely to occur during cooking is survival of food poisoning bacteria. The examining of potential hazards that may be reasonably expected to occur is further explained under clause 5(a) on pages 31 and 32.

Hazards not reasonably expected to occur do not need to be considered. For example, if a business sources all of its water to be used on the premises from the mains water system and this water is of drinkable standard, potential hazards are not likely to occur from the use of this water. However, if water is sourced from non-mains supplies such as tanks, then the water may be a source of hazards and controls need to be considered.

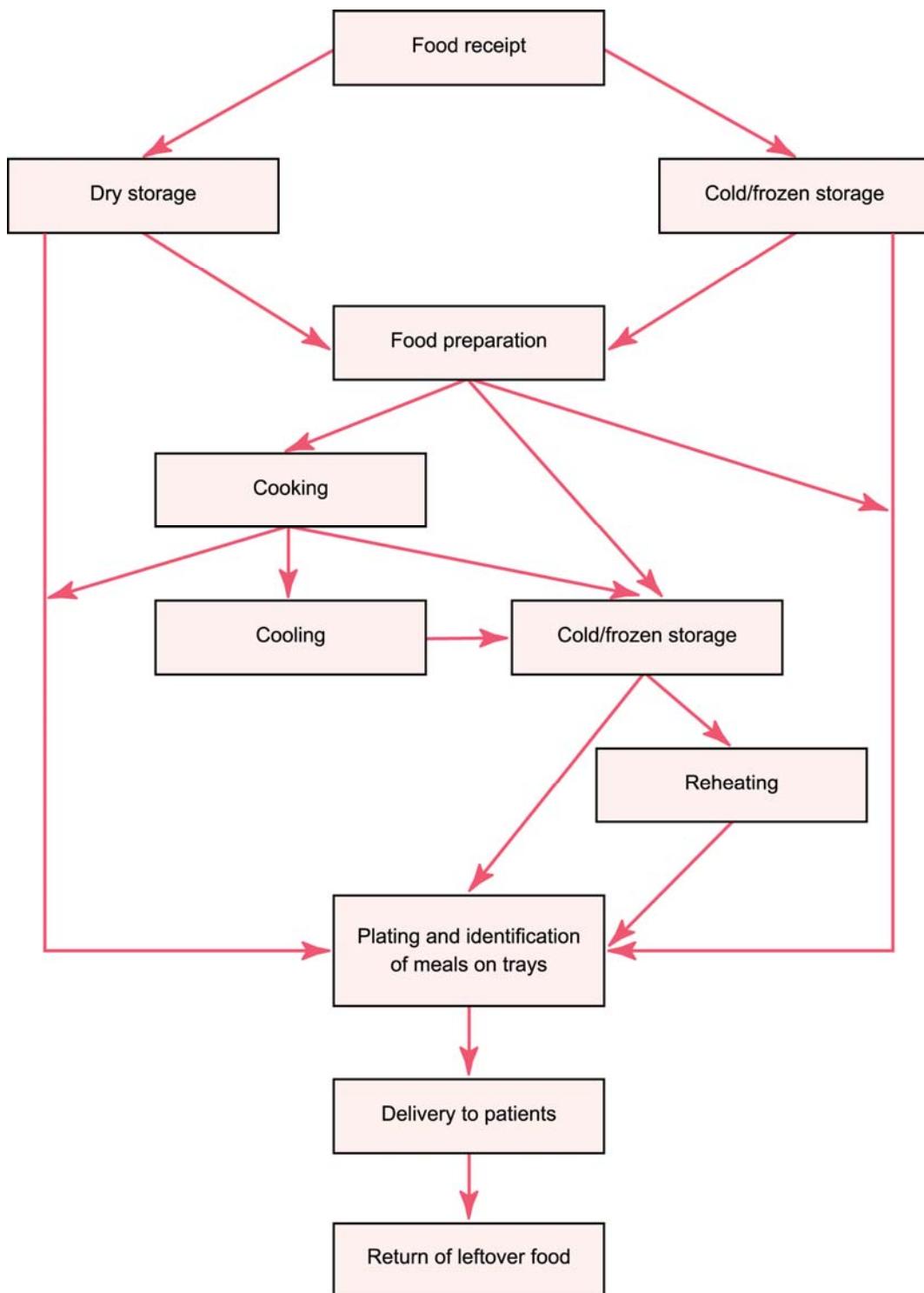


Figure 1: Example of a flow diagram for a hospital kitchen supplying food to patients

3(b) if one or more hazards are identified in accordance with paragraph (a), develop and implement a food safety program to control the hazard or hazards;

A food business must write and follow a food safety program if there are any potential hazards identified in the food handling activities of the business. Food businesses that are required to comply with this standard will be able to identify potential hazards (see pages 5 and 6 for an explanation of the businesses required to comply with this standard). The content of a food safety program is outlined in clause 5.

In writing the food safety program, the business must list any potential hazards associated with the key food handling steps already identified under clause 3(a).

3(c) set out the food safety program in a written document and retain that document at the food premises;

The food safety program must be a written document, in English, that is kept on the premises. An enforcement officer will want to see the food safety program, either in writing or on a computer system readily available on the premises, in order to be satisfied that this program contains the information required in clause 5 of this standard.

The food safety program document needs to be held at the food business's premises at all times. The Commonwealth *Electronic Transaction Act 1999* allows records and documents to be kept in an electronic form. If the food safety program is in an electronic form, staff of the business must be able to access it on the premises at all times (that is, a computer on-site). The food safety program must be available to an auditor under paragraph 4(b).

When a food business is sold and the nature of the business remains unchanged, a food safety program could be transferred to the new owner/proprietor. However, this would be part of the commercial arrangements of the sale of the business. If a food safety program is transferred to a new owner, the new owner is responsible for ensuring that it meets all the legal requirements and accurately reflects the food handling activities of the business. Therefore, if any changes are made to the business's operations, these must be reflected in the food safety program.

If the management of the business changes (but not ownership), the food safety program and all relevant documentation such as records and audit reports must be retained by the owners of the business to satisfy their legal obligation to have a food safety program in place and appropriate records.

3(d) comply with the food safety program; and

To meet the requirements of clause 3(d), the food business must follow the food safety program it has developed. Activities that an enforcement officer might want to see as evidence (by observing the practices of the business and examining its records) that the food business is complying with its written food safety program include that the business is:

- following the control steps for each identified food safety hazard
- monitoring these control steps in the way described in the food safety program
- implementing the corrective actions if a hazard is found not to be under control
- keeping records of monitoring and corrective actions as indicated in the food safety program
- complying with the review procedure specified in the program.

As part of complying with its food safety program the business will need to:

- tell employees what their responsibilities are within the food safety program
- train employees in how to follow the food safety program
- supervise employees as necessary to make sure they follow the program
- modify the food safety program (following the review procedure) so that it continues to accurately reflect the food handling activities of the business and controls the potential hazards of these activities
- provide the necessary equipment so that the program can be followed, for example by supplying soap and single-use towels for hand washing.

3(e) conduct a review of the food safety program at least annually to ensure its adequacy.

To meet the legal requirement of clause 3(e) the food safety program must indicate that the program will be reviewed at least annually and when (approximately) this review will take place. This means that the program must be reviewed within the first 12 months of the program having been implemented, and then at least every 12 months from then on.

What is the purpose of a review?

A review ensures the food safety program is achieving its objective of controlling all potential food safety hazards that are reasonably likely to occur during the food's production.

A review is necessary because the activities of food businesses are not static; they change over time, for example when new equipment is purchased and menu items change. These factors may mean that the food safety program no longer controls the hazards that were identified by the business when the program was first developed. It may also mean that there are new hazards that need to be controlled to make sure the food is safe. When changes take place that affect the food safety program, food businesses need to review the plan immediately, regardless of when the next review is scheduled.

There are two parts to a review: **validation** and **verification**.

Validation

Validation is the action taken by the business to confirm that the control measures are effective in controlling the hazards (that is, they prevent, eliminate or reduce a food safety hazard to an acceptable level).

The validation of a food safety program needs to occur before it is implemented as it confirms whether the proposed controls will be effective. Therefore, when control measures are being determined during the development of the food safety program (as required under paragraph 5(b)), these control measures need to be validated and this is discussed further under this paragraph (see pages 32 to 35). However, as part of reviewing a food safety program, ongoing validation of this program must also be conducted. This needs to include the following checks:

- all potential hazards that are reasonably expected to occur have been identified
- the controls in place are effective. That is, they are capable of preventing, eliminating or reducing a food safety hazard to an acceptable level (while controls may have been validated when the program was first developed, any changes to these controls or the introduction of new controls should initiate re-validation of the food safety program).

Verification

Verification is the action taken by the business to confirm that the practices and procedures in the food safety program are happening.

Verification of a food safety program needs to occur after it has been implemented to check that it is operating as it should. The business must check that control measures (including support programs), monitoring activities, corrective actions and record keeping are actually happening in practice.

Examples of actions the business can take to verify its food safety program include:

- checking that all of the food handling activities of the business are covered within the food safety program
- examining the records kept to ensure that food handlers are completing them correctly, including the recording of any non-conformances and the subsequent corrective action taken
- observing whether food handlers are complying with measures in the food safety program, for example by wearing correct protective clothing and washing and drying hands as required
- checking that contractors have performed the work for which they were engaged, for example that pest control baits are checked as specified in the pest control program.

When should the review take place?

The business must conduct a full review of its entire food safety program at least annually, and should specify in the food safety program the date for this review. However, the food safety program will also need to be reviewed during this 12-month period if there is any change in the business's food handling activities or if other matters occur that may affect the food safety program. However, unlike the annual review, this review need only be on the sections of the food safety program affected.

Prompts to carrying out a review include:

- 1 Internal factors in the business, for example:
 - an internal audit (audit conducted by the business) finds non-conformances
 - new or different types of equipment are used to process foods, for example a new type of oven may affect cooking times and temperatures
 - changes made to chemicals used for cleaning and sanitising
 - changes made to ingredients, additives or menu items
 - results of microbiological testing indicates that controls may not be adequate
 - customers complain of illness, which may indicate that handling operations including processing are inadequate or ineffective
 - food recalls, for food safety reasons, involving the business's products.
- 2 External factors include:
 - new information on hazards or control measures
 - changes to legislation, and new or amended codes of practice, templates or other food safety guidance material
 - audits by enforcement agencies find non-conformances
 - reports of illness outbreaks in the media.

Enforcement agencies may help businesses determine whether a review is necessary by advising them of changes to legislation, improvements in controlling hazards, and new hazards that may occur in foods. Businesses should investigate immediately any customer complaints relevant to food safety to assess whether the food safety program requires any amendment, and should act on any advice or information from industry associations or other reliable sources of information.

What evidence should a business provide to show that a review has been conducted?

The enforcement agency must be satisfied that a food business has conducted a review to assess the adequacy of the food safety program. If the review indicates that there are problems with the program, the enforcement agency must be satisfied that action has been taken to correct or amend the program.

Records must be kept of the review to indicate:

- when the review took place
- what was reviewed, that is, the entire program or only certain parts
- the outcome
- what action, if any, was taken as a result of the review.

Note that while the program can be reviewed in parts, the entire program must be reviewed every twelve months.

Example of monitoring and review

In a hospital kitchen, staff follow cooking times and temperatures for the different types of food that are being cooked. These cooking times and temperatures have been validated to ensure the safety of the food and that the food appears cooked. For example, the business has determined that its lasagne needs to be cooked at 180°C for 35 minutes to ensure that the centre of the lasagne reaches at least 75°C and it looks cooked (that is, brown on top). Staff ensure the lasagne is not removed from the oven until the cooking times and temperatures have been reached and it looks cooked. Additionally, once a week, at the end of cooking, staff must measure the internal temperature of the lasagne and record these temperatures. If it is found that the cooking times and temperature do not ensure that the internal temperature of the lasagne reaches at least 75°C or that the lasagne appears cooked, the cooking times and temperatures will need to be readjusted. Every six weeks, management conducts a check of selected record keeping to ensure that staff are keeping the records specified in the food safety program and carrying out any corrective action where necessary.

Continued

A check of procedures indicates that staff have not kept records for the past three weeks although they have been monitoring the temperatures.

Management directs staff to keep these records and conducts follow-up checks to ensure this occurs. Management also decides to conduct additional staff training on record keeping to ensure that staff know that keeping records demonstrates monitoring, allows for appropriate corrective action, and is required for auditing purposes.

4 Auditing of food safety programs

Food safety programs are audited by a food safety auditor at the frequency determined by the enforcement agency.

4 A food business must:

- 4(a) ensure that the food safety program is audited by a food safety auditor at the auditing frequency applicable to the food business;**

A food safety auditor is defined in the standard as ‘a person approved as a food safety auditor under the Act as a person competent to audit a relevant class of food business’. The Act is the relevant state or territory food Act or other legislation that has jurisdiction.

‘Auditing frequency’ is defined as ‘the most recently determined frequency of auditing determined by the appropriate enforcement agency, or a food safety auditor, in accordance with the Act’. It is the responsibility of each state and territory to decide on the auditing frequency for food businesses within their state or territory. This frequency may be based on nationally agreed criteria. Food safety auditors may determine audit frequencies for individual businesses within the range appropriate for the priority classification of the business, as determined by the state or territory. For further explanation of priority classification, see the interpretation provided for subclause 2(2) on page 20.

Normally, higher risk businesses will need to be audited more frequently than lower risk businesses. However, how often a business is to be audited depends on how well the business has met the food safety standards in the past. For example, a business can be audited more often if audits find non-conformances, particularly serious non-conformances, and less often where the business has a good history of meeting the standards.

A food business must find out from its local enforcement agency how often it needs to be audited. It must then arrange for its food safety program to be audited at this frequency. This mainly applies where the enforcement agency permits third-party auditors to be used by the business. A third-party auditor is a person who has been certified by an accredited certification company as meeting the approval criteria for auditing, in this instance, particular classes of food businesses, and has state or territory approval to practice as a food safety auditor for the purposes of the Act.

If the enforcement agency does not allow for third-party auditors, the agency will audit the business using government-employed auditors (referred to as second-party auditors) at the determined auditing frequency.

The table below defines the different types of auditing.

Definition of types of audits

A first-party audit is an audit that the business conducts itself to assess if the food safety program is being followed. First-party audits are not recognised as audits under this clause. These audits must be conducted by a government-approved auditor.

A second-party audit is an audit conducted by a government-employed or government-contracted auditor.

A third-party audit is an audit conducted by an independent certified auditor.⁹

Specific auditing arrangements may apply in the state or territory where the business is operating. For example, in Victoria, businesses will need to check with their enforcement agency (normally the local council) for the auditing arrangements that apply to their business. Further information is also available on the Victorian Food Safety Unit's webpage, www.health.vic.gov.au/foodsafety.

Example of auditing frequency

A state government (that allows third-party auditors) determines that food safety programs for hospitals are to be audited, initially, twice a year. All hospitals in this state would therefore need to arrange for their food safety program to be audited, initially, at least twice a year. Audits could then be done more often (up to four times a year) or less often (once a year) depending on the results of the audit.¹⁰

- 4(b) make the written document that sets out the food safety program, and the appropriate records referred to in paragraph 5(f), available to any food safety auditor who has been requested to conduct an audit of the food safety program; and**

All relevant documents, including the food safety program and the records the business keeps to show that it does what is in its food safety program, must be available to the food safety auditor who is auditing the program. An auditor is likely to view the food safety program before doing an on-site assessment of the business. The food safety program and any other relevant documents must therefore be made available to the auditor on request.

The records and food safety program can be in either hard copy or electronic form. Electronic documents comply with this paragraph if they are readily available to the auditor upon request. Generally, an auditor would expect records to be available on-site, but a business and auditor may come to an alternative arrangement. The business is expected to help the auditor with the business's record-keeping system.

⁹ These auditors are certified by private companies that themselves have been accredited by the Joint Accreditation System of Australia and New Zealand (JASANZ). JASANZ is the government-appointed accreditation body for Australia and New Zealand responsible for accrediting private certification companies.

¹⁰ These auditing frequencies are for illustration purposes only. All businesses that are required to implement food safety programs in accordance with this standard must check with their local enforcement agency to find out what auditing arrangements apply.

- 4(c) retain copies of all written reports of the results of all audits of the food safety program conducted by a food safety auditor within the last four years, for inspection upon request by a food safety auditor who audits the food safety program or an authorised officer.**

Copies of the food safety audit results must be kept for four years and made available upon request. This applies to a business where ownership has not changed. If a food business is sold, the food safety program and corresponding records may be passed onto the new owner. However, if they are not, the new owner need only keep records from the date this person(s) or company took ownership of the business. If the management of the business changes (but not ownership), the audit reports must be transferred to the new managers.

A ‘food safety auditor’ is defined and explained on page 19. An ‘authorised officer’ is defined in Standard 3.1.1 to mean a person authorised or appointed under the Act or other legislation for the purposes of enforcement of the Act, or similar purposes, such as an ‘authorised officer’, ‘environmental health officer’ or ‘inspector’.

The audit reports may be kept in electronic form, provided they are available upon request.

5 Content of food safety programs

A food business has a written food safety program that controls the food safety hazards of the business.

Standard 3.2.1 requires that a food safety program must include certain information and these legal requirements are outlined in clause 5, subclauses (a) to (f). Below is a brief explanation of these requirements to assist with interpretation. Businesses are advised to access specific guidance material if required to develop a food safety program. Enforcement officers may want to refer to these materials also for enforcement purposes. (See Appendix 1 for advice on how this guidance material can be accessed.)

While not legally required, food businesses are likely to find it useful to include the following additional information in their food safety program.

Details of the business

- business name and licence/registration information where applicable
- name of proprietor(s) (this means the person(s) or company that owns the business)
- address and contact details of the business.

A general description of the nature of the business

- a clear outline of the nature or activities of the business.

While normally obvious, including a broad description of the business’s activities assists the business ensure all facets of the business are covered by the food safety program. For example, a hospital may supply food to other businesses such as an organisation that delivers meals to housebound people in need (for example ‘Meals on Wheels’). Where a description is included,

any key changes in the nature or activities of the business, such as type of food handling operations, gives an early indication of a possible need to review the food safety program.

Key personnel

- a list of all key personnel (for example managers or supervisors) and their roles and functions in terms of the food safety program.

Such a list ensures that all key roles and functions are covered and all staff understand their responsibilities, and gives an early indication of a need to review the list should staff leave the business or functions change.

Development of the food safety program

- a brief description of how the food safety program was developed.

Details might include whether the food business used a government-provided template, industry training packages, external consultants, or developed the program in-house. The description, with contact details, helps new staff understand the process and where to go should updates to the program be required, and may also assist in an audit.

Auditing of the food safety program

- the food safety program should contain information on how often the program is required to be audited and who will be conducting the audit, based on information obtained from the relevant state or territory enforcement agency.

The business may also want to identify the relevant local government authority responsible for monitoring the activities of the business, and up-to-date contact details of this authority.

5 A food safety program must:

5(a) systematically identify the potential hazards that may be reasonably expected to occur in all food handling operations of the food business;

Under paragraph 3(a) referred to earlier in this guide, the business must systematically examine its food handling operations to identify any potential hazards that may reasonably be expected to occur within these operations. In the explanation of 3(a), it was suggested that the business ‘systematically examines’ its food handling operations by listing the steps used to produce food in the business in a logical, progressive sequence, that is, from the receipt of food until its final step for sale. Paragraph 5(a) requires the business to write down in the food safety program the potential hazards (reasonably expected to occur) already identified for each of the food handling steps within the business.

A ‘hazard’ is defined in Standard 3.1.1 as ‘a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect in humans’. Examples of these hazards are listed below.

Microbiological

- Food poisoning bacteria such as *Salmonella* spp., *Campylobacter jejuni*, *Escherichia coli*, *Listeria monocytogenes*, *Staphylococcus aureus*, *Bacillus cereus* and *Clostridium perfringens*.
- Foodborne viruses such as hepatitis A and noroviruses.

- Foodborne parasites such as *Cryptosporidium parvum* and *Giardia lamblia*.
- Toxin-producing moulds such as *Aspergillus flavus*, which produces aflatoxin.

Chemical

Food can become contaminated with unwanted chemicals such as cleaning agents, pesticides, fungicides, fertilisers and veterinary chemicals. For example, food could become contaminated with cleaning agents if care is not taken to store and use the chemicals correctly.

Physical

Food can be contaminated with physical objects such as glass, metal, plastic, insects, adhesive dressings and jewellery. If these things are found in food they may introduce microbial hazards and may also result in physical harm to the consumer, for example choking, laceration and broken teeth.

It is only necessary for potential hazards to be identified if they are ‘reasonably expected to occur’, that is, that the hazard is foreseeable, typical or likely to occur due to the specific nature, storage, transportation, preparation or handling of the food. For example, it is reasonable to expect that food that is being directly handled by food handlers could become contaminated with *Staphylococcus aureus*, as this bacterium can be found in the normal microflora of the nose, throat, perineum or skin of humans. However, it is not reasonable to expect businesses to identify hazards that have not yet been identified, such as new poisonous bacteria.

Businesses may use guidance material to help them identify these potential hazards.

One way to document the potential hazards is to set them out in a table. For each potential hazard, the corresponding control, monitoring and corrective action can be set out in columns. This is illustrated further in the example tables that follow, from Example 1 to 4. The final example, Example 5, includes the required records for the monitoring and corrective actions. Note that only the final completed table would be inserted into the business’s food safety program.

Example 1: Potential hazards set out in a table

A catering business identifies the following potential hazard for the cooling step in its food operation.

Key steps in food operation	Potential hazards (likely to occur at the key step)
Cooling of cooked food ¹¹	Microbiological (growth of food poisoning bacteria)
	Microbiological and physical (contamination of food)

5(b) identify where, in a food handling operation, each hazard identified under paragraph (a) can be controlled and the means of control;

Food businesses are required to write down in the food safety program how each hazard identified under paragraph 5(a) is to be controlled and where it is to be controlled. Hazards can be controlled by support programs or at the specific food handling step. Businesses may use guidance material to

11 The business would need to indicate what type of foods this control applied to, for example rice, casseroles.

help them identify appropriate controls, including support programs (see Appendix 1 for information on guidance material available). These controls (alone or collectively) must be effective in preventing, eliminating or reducing the hazard to a safe, acceptable level. Ensuring that these controls are effective is termed ‘validation’.

Controlling hazards through support programs

Hazards that are common across food handling steps are normally controlled within support programs. For example, the microbiological and physical hazards from food handlers need to be controlled at several food handling steps (such as food preparation, cooking, plating and serving). Instead of repeating the controls for these hazards for each of these steps, the controls can be set out in a health and hygiene support program. Examples of support programs and the hazards they control are listed below.

Hazards	Support programs	Comment
Microbiological, physical and chemical hazards associated with foods and packaging materials supplied to the business	Approved supplier	Problems that could arise from foods and ingredients supplied to the business are controlled.
Microbiological, physical and chemical hazards that arise from staff handling unpackaged food	Staff health and hygiene	Contamination of food with pathogens from sick food handlers, contamination from hands of food handlers and from jewellery, hair and clothing are controlled.
Microbiological and physical hazards arising from pest infestations	Pest control	Infestations by pests are controlled and contamination by, for example, birds, insects and rodents (hair, faeces, urine) are prevented.
Microbiological, physical and chemical hazards associated with using the premises and equipment in the premises.	Cleaning and sanitation	Contamination of food from premises and equipment is controlled.
Chemical hazards associated with the use of cleaning chemicals	Storage and use of chemicals	Chemicals are stored and used in accordance with manufacturers' instructions and action is taken to prevent contamination, for example from spillages.

To ensure support programs are effective at controlling the hazards identified, they must be monitored and corrective action must be taken if the support program is not being followed. The monitoring and corrective actions for each support program can be described within the support program itself. Support programs can also be referred to within a table, together with the corresponding monitoring and corrective actions for this program. An example of a support program is included at Appendix 2.

Controlling hazards at the food handling step

Hazards specific to a food handling step are normally controlled at the step and set out in a table. For example, the hazard of food poisoning bacteria surviving cooking is controlled by specific cooking times and temperatures that apply to a particular food item. In this example, the table could specify the specific cooking times and temperatures to be met or alternatively refer to a cooking procedure to be followed as the method of control. Other examples of procedures that a food business in a hospital kitchen could write include food delivery, cooling of cooked food and delivery of food to patients. All procedures referred to in a table need to be included as attachments to the food safety program.

Validation of controls

Some controls for food safety hazards are specified in legislation. For example, in subclause 7(3) of Standard 3.2.2 *Food Safety Practices and General Requirements*, food businesses must cool cooked potentially hazardous food within certain times and temperatures. Other controls may be specified in guides or templates on developing food safety programs. Where businesses put in place controls specified in the food safety standards, food safety program guides or templates recognised by the relevant enforcement agency, businesses are not required to validate these controls.

However, in many instances, the business will put in place its own procedures to meet these controls. For example, a cooling procedure to ensure the specified cooling times and temperatures in subclause 7(3) are met. All procedures that control food safety hazards must be validated by the business to ensure they are effective in preventing, eliminating or reducing the identified hazard to a safe, acceptable level. In the cooling procedure example, the business must validate that its method of cooling (for example, placing food in shallow trays to a depth of no more than 5 cm) achieves the times and temperatures required by subclause 7(3). The business is then assured that its cooling procedure is controlling the microbiological hazard of pathogenic bacteria growing to dangerous levels during the cooling process.

If a business is carrying out food handling operations where controls are less well known or are more complex, it may have to contact industry associations or scientific bodies for advice on appropriate controls to put in place and how to validate these controls, for example in preparing less well established products such as vegetables in oil, or in cook–chill operations.

Once controls have been validated to confirm that the control measures are effective in controlling the hazards, they may need to be re-validated if there are any changes to the food business's operations that could affect a control that is in place. Changes to a business's operations that may affect controls in place are:

- new or different types of equipment
- introduction of new menu items or changes to existing recipes
 - or
- if concerns arise that controls in place may not be effective, for example as a result of microbiological testing or complaints about illness occurring.

Example 2: Hazards and controls set out in a table

Key steps in food operation	Potential hazards (likely to occur at the key step)	Control (for each identified hazard)
Cooling of cooked food ¹²	Microbiological (growth of food poisoning bacteria) Microbiological and physical (contamination of food)	Cooked food is to be placed in stainless steel cooling trays within 30 minutes of cooking to a depth of no more than 5 cm.¹³ Trays must be covered with cling wrap and labelled with date and time food cooked and time placed in refrigerator on racks to allow air circulation. (The above information could be contained within an attached procedure.)

5(c) provide for the systematic monitoring of those controls;

Monitoring is defined as including ‘checking, observing or supervising in order to maintain control’. The aim of monitoring is to assess whether the control chosen to manage a hazard is occurring in practice.

The food safety program must indicate how each control measure will be monitored. This includes support programs. Examples of monitoring are:

- *inspecting* food as it is delivered to the premises to ensure packaging is still intact
- *measuring* with a thermometer to ensure that cooking temperatures have been achieved, for example roast chickens
- *checking* that raw food is stored separately from ready-to-eat food in the coolroom
- *observing* whether food handlers are washing and drying their hands thoroughly before food preparation.

For each monitoring action, the food safety program must indicate:

- *what* monitoring is to be done
- *who* will do the monitoring
- *when* the monitoring is to be done (for example every batch, twice daily, weekly).

¹² The business would need to indicate what type of foods this control applied to, for example rice, casseroles.

¹³ The business must have validated that this procedure ensures the food is cooled in accordance with subclause 7(3) of Standard 3.2.2 *Food Safety Practices and General Requirements*, which requires cooked potentially hazardous food to be cooled from 60°C to 21°C within 2 hours and from 21°C to 5°C within a further 4 hours.

Example 3: Hazards, controls and monitoring set out in a table

Key steps in food operation	Potential hazards (likely to occur at the key step)	Control (for each identified hazard)	Monitoring (of each control)
Cooling of cooked food ¹⁴	Microbiological (growth of food poisoning bacteria) Microbiological and physical (contamination of food)	Cooked food is to be placed in stainless steel cooling trays within 30 minutes of cooking to a depth of no more than 5 cm. ¹⁵ Trays must be covered with cling wrap and labelled with date and time food cooked and time placed in refrigerator on racks to allow air circulation. (The above information could be contained within an attached procedure.)	What Check to ensure cooling procedure is being followed Who Person in charge of shift When Once per day

(d) provide for appropriate corrective action when that hazard, or each of those hazards, is found not to be under control;

If monitoring finds that the control step in place to manage a hazard is either not working or is not being followed, corrective action must be taken. A corrective action generally consists of two stages.

First, immediate action needs to be taken for any food that may now be unsafe because the hazard is not under control. For example, if monitoring (through observation) shows that a food handler has used the same knife for slicing raw and ready-to-eat food, the ready-to-eat food should be discarded as it may be contaminated with food poisoning bacteria.

Second, there needs to be an investigation into the cause of the ‘loss of control’ of the hazard so that steps can be taken to make sure this ‘loss of control’ does not happen again. For example, the food handler may have used the same knife because it was during a busy period and no clean knives were readily available. To prevent a repeat of this mistake, the business would re-train the staff member on the importance of always using a clean and dry knife for ready-to-eat food and could also purchase more knives.

The table opposite includes the column for ‘corrective action’. This completes the required information for controlling the potential hazard used in this example.

14 The business would need to indicate what type of foods this control applied to, for example rice, casseroles.

15 The business must have validated that this procedure ensures the food is cooled in accordance with subclause 7(3) of Standard 3.2.2 *Food Safety Practices and General Requirements*, which requires cooked potentially hazardous food to be cooled from 60°C to 21°C within 2 hours and from 21°C to 5°C within a further 4 hours.

Example 4: Hazards, controls, monitoring and corrective action set out in a table

Key steps in food operation	Potential hazards (likely to occur at the key step)	Control (for each identified hazard)	Monitoring (of each control)	Corrective action
Cooling of cooked food ¹⁶	<p>Microbiological (growth of food poisoning bacteria)</p> <p>Microbiological and physical (contamination of food)</p>	<p>Cooked food is to be placed in stainless steel cooling trays within 30 minutes of cooking to a depth of no more than 5 cm.¹⁷</p> <p>Trays must be covered with cling wrap and labelled with date and time food cooked and time placed in refrigerator on racks to allow air circulation.</p> <p>(The above information could be contained within an attached procedure.)</p>	<p>What Check to ensure cooling procedure is being followed</p> <p>Who Person in charge of shift</p> <p>When Once per day</p>	<p>Food found not to have been cooled in accordance with this procedure is to be discarded.</p> <p>If food is not covered, it must be discarded if it is contaminated or reasonably suspected of being contaminated. Otherwise it is to be covered.</p> <p>Unlabelled food to be discarded unless the information required can be determined and hence the food labelled as specified under control.</p> <p>Staff to be re-trained in correct procedures.</p>

5(e) provide for the regular review of the program by the food business to ensure its adequacy; and

The food safety program must include information about the review of the program, such as:

- the person or persons in the business responsible for the review

¹⁶ The business would need to indicate what type of foods this control applied to, for example rice, casseroles.

¹⁷ The business must have validated that this procedure ensures the food is cooled in accordance with subclause 7(3) of Standard 3.2.2 *Food Safety Practices and General Requirements*, which requires cooked potentially hazardous food to be cooled from 60°C to 21°C within 2 hours and from 21°C to 5°C within a further 4 hours.

The person should be someone familiar with the food safety program, the business's operations and with the authority to check records and act on the outcomes.

- when the review is to be carried out

This must be at least annually (see pages 25 to 27 of this guide for more information on review) but may be more frequently than annual, particularly where a loss of control is discovered, or may be ongoing, prompted by changes in the business, complaints or other 'prompts' described under clause 3.

- the scope of the review

The business must conduct a full review of its entire food safety program at least annually. However, the food safety program will also need to be reviewed during this twelve month period when there is any change in the business's food handling activities or other matters occur that may impact on the food safety program.

The scope should describe the food handling operations covered by the review, procedures and records to be checked, and whether any equipment is to be checked for accuracy.

- the records of the review to be kept

Subclause 5(f) requires the food safety program to include appropriate record-keeping procedures. These records should include information on the review, for example, they should indicate who carried out the review, dates of reviews and their scope and outcomes, including action to correct any non-conformances. Records could be in the form of a checklist.

5(f) provide for appropriate records to be made and kept by the food business demonstrating action taken in relation to, or in compliance with, the food safety program.

The food safety program must include what records will be kept and the business must keep these records. At a minimum, records will need to be kept for:

- monitoring actions
- corrective actions
- the review of the program, specifically when the review took place and the outcome.

These records must be 'appropriate', that is, they must provide sufficient information to show that the business is complying with the food safety program. At a minimum they need to be legible and indicate:

- what the record relates to (for example, that it relates to cooking temperatures and, where relevant, what type of food and what batch)
- who made the record
- the date and, where relevant, the time the record was made
- the result of what is being recorded (for example cooking temperatures)
- any action taken as a result of the recording (for example, the corrective action taken if monitoring found that cooking temperatures had not been reached within the specified time).

All records will need to be kept at least until the food safety program has been externally audited, either by a second- or third-party auditor as required by the enforcement agency. Records can be kept electronically, provided the auditor can access them. When the audit is complete, all audit reports must be retained as required under clause 4(c) of the standard, that is, for the last four years.

The table that results from following the step approach in the examples now includes the records that are kept, as illustrated below.

Example 5: Hazards, controls, monitoring, corrective action and records set out in a table

Key steps in food operation	Potential hazards (likely to occur at the key step)	Control (for each identified hazard)	Monitoring (of each control)	Corrective action
Cooling of cooked food ¹⁸	<p>Microbiological (growth of food poisoning bacteria)</p> <p>Microbiological and physical (contamination of food)</p>	<p>Cooked food is to be placed in stainless steel cooling trays within 30 minutes of cooking to a depth of no more than 5 cm.¹⁹</p> <p>Trays must be covered with cling wrap and labelled with date and time food cooked and time placed in refrigerator on racks to allow air circulation.</p> <p>(The above information could be contained within an attached procedure.)</p>	<p>What Check to ensure cooling procedure is being followed</p> <p>Who Person in charge of shift</p> <p>When Once per day</p> <p>Records See attached record sheet</p>	<p>Food found not to have been cooled in accordance with this procedure is to be discarded.</p> <p>If food is not covered, it must be discarded if it is contaminated or reasonably suspected of being contaminated.</p> <p>Otherwise it is to be covered.</p> <p>Unlabelled food to be discarded unless the information required can be determined and hence the food labelled as specified under control.</p> <p>Staff to be re-trained in correct procedures.</p> <p>Records</p> <p>See attached record sheet.</p>

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- 18 The business would need to indicate what type of foods this control applied to, for example rice, casseroles.
- 19 The business must have validated that this procedure ensures the food is cooled in accordance with subclause 7(3) of Standard 3.2.2 *Food Safety Practices and General Requirements*, which requires cooked potentially hazardous food to be cooled from 60°C to 21°C within 2 hours and from 21°C to 5°C within a further 4 hours.

Example of a recording sheet for the cooling of cooked food

Record for cooling cooked food for period ...					
<p>Cooling procedure</p> <p>Cooked food is to be placed in stainless steel cooling trays within 30 minutes of cooking to a depth of no more than 5 cm.</p> <p>Trays must be covered with cling wrap and labelled with date and time food cooked and time placed in refrigerator on racks to allow air circulation.</p>					
<p>Validation of cooling procedure</p> <p>This procedure was validated on (<i>insert date</i>) for all the foods to which it applies to ensure these foods are cooled in accordance with subclause 7(3) of Standard 3.2.2 <i>Food Safety Practices and General Requirements</i>.</p>					
<p>Corrective action</p> <p>Food that has not been cooled in accordance with the procedure stated above must be discarded.</p> <p>If food is not covered, it must be discarded if it is contaminated or reasonably suspected of being contaminated. Otherwise it is to be covered.</p> <p>Unlabelled food to be discarded unless the information required can be determined and hence the food labelled as specified under control.</p> <p>Staff to be re-trained in correct procedures.</p>					
Food	Food in correct trays for cooling, not overfilled, covered and labelled as per above procedure	Food placed in fridge within 30 minutes of cooking	Date and time food checked	Action taken if procedure not being followed	Name of person
Rice					
Beef goulash					
Sweet and sour pork					
<i>List additional foods to be cooled</i>					
Reviewed by Food Service Manager Date.....					

6 Fundraising events

Fundraising events for community or charitable causes that are staffed exclusively by volunteers are excluded from the requirement to have a food safety program.

6 A food business does not have to prepare a food safety program in accordance with this standard for fund raising events conducted by the food business, that is, events that raise funds solely for community or charitable causes and not for personal financial gain.

This intention of this clause is to exempt food businesses from the requirement to have a food safety program, if they are conducting fundraising events for community or charitable causes and not for personal financial gain. However, many businesses are not currently required to have a food safety program—only those identified as high-risk. See ‘Who must comply with Standard 3.2.1 and by when?’ on pages 5 and 6. Therefore, this exemption is only relevant to those businesses that are required to have a food safety program in place.

The definition of food business (in Standard 3.1.1) includes the selling of food on one or more occasions, and includes organisations of a charitable or community nature.

This clause applies to any fundraising event where there is no resulting personal financial gain. An ‘event’ can be a regular, irregular or one-off occurrence.

A ‘fundraising event’ is an event that:

- intends to raise funds
- donates all funds raised solely to a community or charitable cause.

The phrase ‘not for personal financial gain’ emphasises that proprietors or staff of the business do not receive income or other financial reward from the funds raised at the event, as all the funds are donated to the community or charitable cause.

Some community or charitable organisations operate as food businesses in direct competition with ‘commercial’ catering services. While these organisations may be holding events that raise money for community or charitable causes, it is unlikely that only volunteers staff them. It is more likely the case that there is a person (or persons) who receives a salary to manage the business. The funds raised are therefore not solely for a community or charitable cause and the events do not qualify for an exemption (that is, the organisation must have a food safety program for these events).

To qualify for an exemption under this clause, two criteria need to be met.

- 1 The purpose of having the event must be to raise money for community or charitable causes
The event must be a fundraising event for a community or charitable cause. Examples of raising money for a community cause could be moneys raised for schools, childcare facilities, sports groups and religious institutions. A charitable cause would be the raising of money for needy persons in the community such as for the sick, people with disabilities, the homeless or other persons who are underprivileged.
- 2 All the funds raised at the event must be used for a community or charitable cause and there must be **no** personal financial gain made from the running of the event.

All the money raised must be used for a community or charitable cause. However, the costs of running the event can be taken from the moneys raised, provided there is no personal financial gain.

Note that if a business does qualify for an exemption under this clause, that is, they do not have a food safety program for the event, they are still obligated to comply with Standards 3.2.2 *Food Safety Practices and General Requirements* and 3.2.3 *Food Premises and Equipment*.

Examples

Activity	Comment	Requires a food safety program?
1 A catering business holds a barbecue once a year, donating staff time and food. It charges the public to attend and donates all the funds to a children's charity.	The BBQ is an event that is raising funds for a charitable cause and the business makes no financial gain from it. The business is not required to include the food handling activities for this BBQ in its food safety program.	Meets criteria 1 yes 2 yes No food safety program required for this event
2 A charitable organisation offers catering to raise funds for the charity. While most of the monies collected are donated to the charity, some is retained to pay the executive officer and an events coordinator.	The charitable organisation requires a food safety program for the catering operation because there is personal financial gain.	Meets criteria 1 yes 2 no Requires a food safety program
3 A charitable organisation offers catering to raise funds for the charity. All persons involved in the running of this business are volunteers and receive no payment. Expenses for supplies are deducted and all of the remaining funds go to the charity.	There is no personal financial gain resulting from the events that this organisation holds—no wages are paid and any profit goes towards the charity.	Meets criteria 1 yes 2 yes No food safety program required

Appendix 1

Food safety program resources

Food safety program resources developed by Australian governments

Australian Government Department of Health and Ageing

For copies of the tools listed below contact the Australian Government Department of Health and Ageing; phone: 02 6289 5131; email: foodsafety@health.gov.au

Tool for the development of a food safety program for delivered meals organisations

Tool for the development of a food safety program for children's services operations

Tool for the development of a food safety program for commercial food service establishments

Tool for the development of a food safety program for cold smoking fish

Tool for the development of a food safety program for cooking prawns on trawlers

Tool for the development of a food safety program for shucking oysters

Australian Government Department of Agriculture, Fisheries and Forestry

For guidance on HACCP-based food safety programs for the dairy, meat, fish and egg primary production sectors, see the website links below:

Dairy: www.daff.gov.au/aqis/export/dairy/guidelines

Meat: www.daff.gov.au/aqis/export/meat/elmer-3

Fish: www.daff.gov.au/aqis/export/fish/guidelines

Eggs: www.daff.gov.au/aqis/export/eggs

New South Wales

Industry guide to developing a food safety program (hospitals and aged care): NSW Food Authority, PO Box 6682, Silverwater, NSW 1811; phone: 1300 552 406; website: www.foodauthority.nsw.gov.au

South Australia

Food safety program template for hospitals

Food safety program template for aged care facilities

Food safety program template for child care centres

Food safety resources CD

Bug Busters food safety training DVD and questionnaire

Government of South Australia, Department of Health, PO Box 6 Rundle Mall, Adelaide, SA 5000; phone: 08 8226 7100; website: www.dh.sa.gov.au/pehs/Food/food-safety-programs.htm

Queensland

For available resources please contact Government of Queensland, Department of Health, GPO Box 48, Brisbane, Qld 4001; phone: 07 3234 0938

Victoria

Food Safety Program Template for Retail and Food Service Businesses: Government of Victoria, Department of Human Services, GPO Box 1670N, Melbourne, Vic. 3000; phone: 1300 364 352; website: www.health.vic.gov.au/foodsafety/

FoodSmart (interactive web-based food safety program template for retail and food service businesses): Government of Victoria, Department of Human Services, GPO Box 1670N, Melbourne, Vic. 3000; phone: 1300 364 352; website: www.health.vic.gov.au/foodsafety/

International food safety program resources

Basic texts on food hygiene. Third edition. Codex Alimentarius Commission; website: www.codexalimentarius.net—see ‘Official standards’ – ‘Special publications’

Food Safety Enhancement Program: Canadian Food Inspection Agency; website: www.inspection.gc.ca

Food quality and safety systems: a training manual on food hygiene and the Hazard Analysis and Critical Control Point (HACCP) System: Food and Agriculture Organisation of the United Nations; website: www.fao.org/docrep/W8088E/w8088e00.htm

Safer food better business: Food Standards Agency, United Kingdom; website: www.foodstandards.gov.uk

Appendix 2

Example of a support program: pest control

Name of pest control company	<i>Insert company name</i>
Contact name(s)	<i>Insert contact name(s)</i>
Address of company	<i>Insert address</i>
Phone no.	<i>Insert phone number</i>
Additional contact details	<i>Insert mobile number</i>
Contract period	<i>Insert start and finish dates of contract</i>
Agreed review date	<i>Insert date program to be reviewed (must be at least annually)</i>
Purpose/hazard	<ul style="list-style-type: none"> Prevent physical and/or microbiological contamination introduced by pests, e.g. insects, rodents.
Control	<ul style="list-style-type: none"> Pest control company contracted to carry out activities deemed necessary to control pests on the food premises (list or attach agreed controls and frequency), e.g. regular spraying, setting bait stations.
Monitoring	<ul style="list-style-type: none"> Food business to ensure the pest control company carries out activities as contracted, including returning to the premises at the agreed time intervals. Food business to also conduct regular internal checks of evidence of pests.
Corrective action	<ul style="list-style-type: none"> If pest company contracted to control pests is not meeting its obligations under the agreed contract, draw this to the attention of the company for appropriate action. If problems continue to occur, reconsider contract. If there is any evidence of pests observed, contact the pest control company for immediate action.
Review	<ul style="list-style-type: none"> At least annually and in consultation with the pest company contracted, review the adequacy of the pest control program and revise if necessary.
Records	<ul style="list-style-type: none"> Refer to where records are kept of all monitoring, corrective actions and reviews undertaken.

Glossary of legally defined terms

Following is a glossary of terms that are legally defined within Standard 3.1.1 *Interpretation and Application* and Standard 3.2.1 *Food Safety Programs* that are of relevance to this standard.

appropriate enforcement agency

An enforcement agency prescribed by the regulations under the Act for the purposes of enforcement of the Act or similar purposes. (Standard 3.1.1)

auditing frequency

The most recently determined frequency of auditing determined by the appropriate enforcement agency, or a food safety auditor, in accordance with the Act. (Standard 3.2.1)

authorised officer

a person authorised or appointed under the Act or other legislation for the purposes of enforcement of the Act, or similar purposes, such as an ‘authorised officer’, ‘environmental health officer’ or ‘inspector’. (Standard 3.1.1)

contaminant

any biological or chemical agent, foreign matter, or other substances that may compromise food safety or suitability. (Standard 3.1.1)

contamination

the introduction or occurrence of a contaminant in food. (Standard 3.1.1)

food business

a business, enterprise or activity (other than primary food production) that involves –

- (a) the handling of food intended for sale; or
- (b) the sale of food;

regardless of whether the business, enterprise or activity concerned is of a commercial, charitable or community nature or whether it involves the handling or sale of food on one occasion only. (Standard 3.1.1)

food handler

a person who directly engages in the handling of food, or who handles surfaces likely to come into contact with food, for a food business. (Standard 3.1.1)

food handling operation

any activity involving the handling of food. (Standard 3.1.1)

food premises

any premises including land, vehicles, parts of structures, tents, stalls and other temporary structures, boats, pontoons and any other place declared by the relevant authority to be premises under the Food Act kept or used for the handling of food for sale, regardless of whether those premises are owned by the proprietor, including premises used principally as a private dwelling, but does not mean food vending machines or vehicles used only to transport food. (Standard 3.1.1)

food safety auditor

a person approved as a food safety auditor under the Act as a person competent to audit the relevant class of food business. Jurisdictions may approve environmental health officers, private contractors, or a mixture of the two as food safety auditors. (Standard 3.2.1)

food safety program

a food safety program that satisfies the requirements of clause 5. (Standard 3.2.1)

food safety standards

the standards contained in Chapter 3 of the *Australia New Zealand Food Standards Code*. (Standard 3.1.1)

handling of food

includes the making, manufacturing, producing, collecting, extracting, processing, storing, transporting, delivering, preparing, treating, preserving, packing, cooking, thawing, serving or displaying of food. (Standard 3.1.1)

hazard

a biological, chemical or physical agent in, or condition of, food that has the potential to cause an adverse health effect in humans. (Standard 3.1.1)

monitoring

includes checking, observing or supervising in order to maintain control. (Standard 3.2.1)

primary food production

the growing, cultivation, picking, harvesting, collection or catching of food, and includes the following:

- (a) the transportation or delivery of food on, from or between the premises on which it was grown, cultivated, picked, harvested, collected or caught;
- (b) the packing, treating (for example, washing) or storing of food on the premises on which it was grown, cultivated, picked, harvested, collected or caught; and
- (c) any other food production activity that is regulated by or under an Act prescribed by the regulations for the purposes of this definition.

However, primary food production does not include:

- (d) any process involving the substantial transformation of food (for example, manufacturing or canning), regardless of whether the process is carried out on the premises in which the food was grown, cultivated, picked, harvested, collected or caught; or
- (e) the sale or service of food directly to the public; or
- (f) any other food production activity prescribed by the regulations under the Act for the purposes of this definition. (Standard 3.1.1)

proprietor of a food business

the person carrying on the food business, or if that person cannot be identified – the person in charge of the food business. (Standard 3.1.1)

sell

- (a) barter, offer or attempt to sell; or
- (b) receive for sale; or

- (c) have in possession for sale; or
- (d) display for sale; or
- (e) cause or permit to be sold or offered for sale; or
- (f) send, forward or deliver for sale; or
- (g) dispose of by any method for valuable consideration; or
- (h) dispose of to an agent for sale on consignment; or
- (i) provide under a contract of service; or
- (j) supply food as a meal or part of a meal to an employee, in accordance with a term of an award governing the employment of the employee or a term of the employee's contract of service, for consumption by the employee at the employee's place of work;
- (k) dispose of by way of raffle, lottery or other game of chance; or
- (l) offer as a prize or reward; or
- (m) give away for the purpose of advertisement or in furtherance of trade or business; or
- (n) supply food under a contract (whether or not the contract is made with the consumer of the food), together with accommodation, service or entertainment, in consideration of an inclusive charge for the food supplied and the accommodation, service or entertainment; or
- (o) supply food (whether or not for consideration) in the course of providing services to patients or inmates in public institutions, where 'public institution' means 'public institution' as defined in the Act, if it is so defined, or
- (p) sell for the purpose of resale. (Standard 3.1.1)