

Food Act Report

Year ending 30 June 2010



Government
of South Australia

SA Health

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South Australian Food Legislation

The Food Act 2001

The objectives of the *Food Act 2001* are defined in Section 3 of the Act as:

- Ensuring that food for sale is safe and suitable for human consumption
- Preventing misleading conduct in connection with the sale of food
- Providing for the application of the Food Standards Code.

The *Food Act 2001* closely follows the content and structure of national model food provisions, which provide for the consistent administration and enforcement of food legislation in Australia. This uniform approach to national food legislation was formalised by the Inter-Governmental Food Regulation Agreement 2002. Under the Agreement all states and territories have adopted the Australia New Zealand Food Standards Code (the Food Standards Code, 'the Code') through their food acts. While the Act contains important legal and administrative issues, such as defining offences and penalties, the Code details the specific requirements with which food businesses must comply.

The Food Standards Code (the 'code')

The Code is a bi-national document that details labelling, composition and food safety laws that apply to foods and food handling business. It is set out in four chapters:

- **Chapter 1 – General Food Standards:** General labelling and composition standards applying to all foods
- **Chapter 2 – Food Product Standards:** Standards applying to specific foods or categories of foods
- **Chapter 3 – Food Safety Standards (Australia only):** The Food Safety Standards include specific requirements for food businesses and food handlers that, if complied with, will ensure food does not become unsafe or unsuitable
- **Chapter 4 – Primary Production Standards (Australia only):** Primary Production and Processing Standards for seafood, meat, dairy and wine.

Primary Industries Legislation

The Primary Produce (Food Safety Schemes) Act 2004 is administered by Biosecurity SA (a branch of Primary Industries and Resources South Australia (PIRSA)) and the Dairy Authority of SA (DASA). The Act implements food safety requirements in the meat, dairy, seafood and citrus industries. This Act and the Food Safety Scheme regulations under this Act are recognised by (regulation under) the Food Act as they implement equivalent food safety requirements to those required by the Food Act.

South Australian food legislation forms part of a bi-national food regulatory system which is described below.

The Bi-National Food Regulation System

The food regulatory system is established by the Inter-Governmental Food Regulation Agreement 2002 between the State, Territory and Australian Governments. New Zealand's role and participation in the system is established by the Australia New Zealand Joint Food Standards Agreement between Australia and New Zealand, creating a joint food standards system. The system consists of three major components described below.

Strategic Direction of the Bi-National Food Regulatory System

On 2 May 2008, the Australian and New Zealand Food Regulation Ministerial Council endorsed the *Overarching Strategic Statement for the Food Regulatory System* that provides the strategic context for the bi-national food regulation system. The document articulates the scope and objectives of the food regulation system, the approach that will be taken to policy development, standard setting and implementation. The statement is available from the Food Regulation Secretariat website [search under Food Regulation Standing Committee (FRSC)] [<Overarching Strategic Statement \(PDF 278 KB\)>](#)

Policy development

The Australia New Zealand Food Regulation Ministerial Council (the Ministerial Council) is primarily responsible for the development of domestic food regulatory policy and the development of policy guidelines for setting domestic food standards. It has the capacity to adopt, amend or reject standards recommended by Food Standards Australia New Zealand (FSANZ) and to request that these be reviewed.

The council comprises Health Ministers from most Australian states and territories and the Australian Government as well as other Ministers from related portfolios (Primary Industries, Consumer Affairs etc) where these have been nominated by their jurisdictions. Currently all jurisdictions, except New South Wales and New Zealand, have nominated a Health Minister as Lead Minister for voting purposes. NSW has nominated the Minister for Primary Industries and New Zealand has nominated the Minister for Food Safety as Lead Minister for voting purposes. Under the Food Regulation Agreement the Australian Government Health Minister chairs the council. South Australia is represented by the Minister for Health and Minister for Agriculture, Food and Fisheries. The Minister for Health is the Lead Minister.

Comprehensive Review of Food Labelling Law and Policy

In October 2008, the Australia New Zealand Food Regulation Ministerial Council (Ministerial Council) agreed to undertake an independent, comprehensive review of food labelling law and policy as part of the Council of Australian Governments (COAG) Food Regulation Reform Agenda. The Review will consider options to reduce the regulatory burden in labelling, using an evidence-based approach, without compromising public health and safety.

The review is being undertaken by an expert panel comprising prominent individuals who collectively possess knowledge and expertise in the fields of public policy/economics, public health law, consumer behaviour and business.

In November 2009, the Review Panel conducted an initial round of public consultation seeking input from stakeholders on the scope of the review.

In March 2010, the Review Panel released an Issues Consultation Paper that included specific questions around various areas of food regulation, labelling and policy. SA Health led the preparation of a whole of government submission to the review.

The whole of government submission emphasised public health and safety in its broadest terms as the priority for food labelling. In addition, it stressed the importance of enabling consumers to make informed choices about food and highlighted the role that labels can play in supporting a healthy lifestyle and the prevention of chronic disease, including the potential role of Front of Pack Labelling (FOPL). The submission also stated that broader public health objectives should be considered when determining the role of governments in food regulation.

For more information on this review see the Food Labelling Law and Policy Review website: www.foodlabellingreview.gov.au

Trans Fatty Acids in the Australia and New Zealand Food Supply

In October 2009, the Ministerial Council considered the review report Trans Fatty Acids in the Australia and New Zealand food supply compiled by FSANZ. This report showed that the intake of trans fatty acids is decreasing in both countries. The Ministerial Council endorsed the recommendation to retain current non-regulatory approaches and welcomed the work of industry to reduce trans fatty acids in food by 25 – 40%.

The review report is available on the Food Regulation Secretariat website: www.foodsecretariat.health.gov.au

The Food Regulation Standing Committee (FRSC) is responsible for coordinating policy advice to the Ministerial Council and ensuring a nationally consistent approach to the implementation and enforcement of food standards. It also advises the Ministerial Council on the initiation, review and development of Standing Committee activities.

Membership of FRSC reflects the membership of the Ministerial Council and comprises the heads of departments for which the Ministers represented on the council have portfolio responsibility, as well as the President of the Australian Local Government Association and FSANZ as observers. The Director of Public Health represents SA Health at FRSC.

FRSC Working Groups

The Standing Committee has a number of working groups and this financial year SA Health was represented at the following groups:

FRSC Review of Ministerial Policy Guideline on Food Safety Management

The FRSC Food Safety Management Working Group has been established to review the 2003 Ministerial Policy Guidelines on Food Safety Management in Australia: Food Safety Programs. The Working Group will undertake public consultation as part of this review before it reports back to the Ministerial Council in December 2010. FSANZ proposal P290 – Food Safety Programs for Catering Operations to the General Public has been placed on hold pending the findings of this review.

FRSC Working Group for the Development of Policy Guidance for the Regulation of Infant Formula Products

This working group was given the task of preparing a draft policy guideline on the regulation of Infant Formula Products. Infant formula is regulated by Standard 2.9.1 of the Australia New Zealand Food Standards Code (the Code) which addresses composition, labelling and packaging.

The intention behind the development of the draft guidelines is not to erode the promotion of breast feeding which is recognised as paramount in both Australia and New Zealand. Rather, it is intended to contribute to the provision of safe and adequate nutrition for infants by ensuring that breast milk substitutes are appropriately regulated. This policy guideline will also inform any future review of Standard 2.9.1 of the Code.

The working group developed a consultation paper which was released for comment between June and September 2009. The submissions from the consultation have been used to inform the development of a final draft policy guideline for the regulation of infant formula products during 2009/2010. It is intended that this guideline will be considered by Ministers in early 2011.

A copy of the consultation paper and other information related to the development of the Policy Guideline for the Regulation of Infant Formula Products can be found on the Food Regulation Secretariat website: www.foodsecretariat.health.gov.au

FRSC Working Group for the Development of Policy Guidance on the Intent of Part 2.9 of the Code – Special Purpose Foods

This working group was given the task of preparing a draft policy guideline on the Intent of Part 2.9 – Special Purpose Foods, of the Australia New Zealand Food Standards Code (the Code). Special purpose foods are defined as those which are specially processed or formulated to satisfy particular dietary requirements that exist because of a particular physical or physiological condition and/or specific diseases and disorders.

The intention of this policy guidance is to provide guidance to Food Standards Australia New Zealand (FSANZ) to assist in a review of Part 2.9 of the Code. The Policy Guideline will also assist FSANZ in the consideration of any future development or review of food standards in Part 2.9 of the Code.

The policy guideline was endorsed by the Ministerial Council in October 2009 and is now published on the Food Regulation Secretariat website: www.foodsecretariat.health.gov.au

FRSC Front of Pack Labelling (FOPL) Working Group

The working group was established to develop a policy guideline on front of pack labelling using the background work completed by the previous working group on front of pack labelling in 2007/2008 and the research conducted by the Australian Population Health Development Principal Committee, a sub committee of the Australian Health Ministers Conference (AHMC).

SA Health was Chair and Secretariat for this working group.

At their meeting in October 2009, the Ministerial Council endorsed a Ministerial Council Policy Statement on Front of Pack Labelling which outlines the Ministerial Council's views on food labelling that could be used to guide consumers to healthier food options.

The Ministerial Policy Statement was subsequently provided to the Food Labelling Law and Policy Review Panel for consideration and to FSANZ to inform any subsequent actions that might result from the review. The Policy Statement is published on the Food Regulation Secretariat website: www.foodsecretariat.health.gov.au

FRSC Strategic Planning Working Group

The working group updated the FRSC Strategic Plan 2009–2014 to reflect the completion of work, such as the development of a Ministerial Policy Guideline on the Intent of Standard 2.9 – Special Purpose Foods and publication of a Ministerial Policy Statement on Front of Pack Labelling. New work items were added to the plan, which included a review of the Food Safety Management Ministerial Policy Guidelines and a Review of Formulated Caffeinated Beverages.

The FRSC Strategic Plan 2010–2015 is available on the Food Regulation Secretariat website: www.foodsecretariat.health.gov.au

Standards Development

SA Health's advice to FSANZ regarding proposed amendments to the Australia New Zealand Food Standards Code

A total of 48 applications and proposals to amend the Australia New Zealand Food Standards Code (the Code) were provided to SA Health by Food Standards Australia New Zealand (FSANZ) during the 2009-2010 financial year.

Some of the issues raised in these applications/proposals include:

- Primary Production and Processing Standard for Eggs and Egg Products
- Primary Production and Processing Requirements for Raw Milk Products
- Phytosterol esters in reduced fat cheese products
- Urgent consideration of semi-dried tomatoes (traceability and processing)
- Genetically Modified foods
- Maximum Residue Limits in food
- New permissions for additives.

A summary of three of the major issues covered by applications/proposals is set out below. More details on all applications and proposals can be found at the FSANZ website: www.foodstandards.gov.au

P1007 Primary Production and Processing Requirements for Raw Milk Products (Australia only)

Consumption of raw milk and products made from raw milk present a high level of risk to public health due to the likelihood of contamination with pathogens. Control measures such as pasteurisation have historically been used to eliminate pathogens that may be present in raw milk, therefore creating a safe product.

During 2009/2010, FSANZ commenced a first assessment of raw milk products and the alternative production and process controls that could manage the risk posed by raw milk through Proposal P1007. The objective of P1007 is to enable a greater range of dairy products to be produced in, or imported into, Australia while maintaining the paramount purpose of protecting public health and safety in the Australian population.

This proposal will continue to be developed during 2010 and 2011.

Primary Production and Processing Standard for Eggs and Egg Products

A Draft Assessment Report to develop a standard for eggs and egg products was considered during the 2009-2010 period. The intent of this proposal is to improve the safety of shell eggs and egg products for sale in Australia, following outbreaks of illness attributed to these products. The work has progressed with the advice and guidance of a Standard Development Committee (SDC) comprising representatives from the egg industry, government regulators and consumers.

The current regulatory and self-regulatory measures do not fully address the public health cost burden of unsafe eggs. Although clean, whole shell eggs are rarely associated with food-borne illness in Australia, bacterial contamination in cracked and dirty eggs and unpasteurised pulp is the key hazard associated with public health risk.

Development of this new standard will continue in 2010–2011.

Phytosterol Esters in Reduced Fat Cheese Products

An application to amend the Code to permit the use of tall oil phytosterol esters as a novel food ingredient in low fat cheese and processed cheese under Standard 1.5.1 – Novel Foods and Standard 2.5.4 – Cheese was considered during 2009–2010.

Phytosterol esters are currently permitted in edible oil spreads, milk, yoghurt and breakfast cereals. Phytosterol esters in certain quantities have been shown to deliver a cholesterol lowering effect to individuals with slightly elevated cholesterol levels. The reason for this application is to increase the variety of products available to those seeking blood cholesterol reductions and to do so via portion control to enable better measurement of plant sterol intake.

The purpose of Standard 1.5.1 is to ensure that non-traditional foods which have features or characteristics that may raise safety concerns undergo a risk-based safety assessment before they are offered for retail sale in Australia or New Zealand. Approved novel foods are listed in the Table of Clause 2 in Standard 1.5.1.

This amendment to the Code was approved in April 2010.

Nutrition, Health and Related Claims

As part of its consideration of the Ministerial Council Review Request in relation to Proposal P293 – Nutrition, Health and Related Claims, FSANZ released a public consultation paper in March 2009. The consultation paper covered two key issues:

- the text and structure of the draft standard in order to improve clarity and address the enforcement issues, and
- the approach used for the regulation of general-level health claims (including substantiation).

In October 2009, the Ministerial Council agreed to extend the period for the first review in relation to P293 – Nutrition, Health and Related Claims, to 14 April 2011 in order to coincide with the anticipated recommendations from the current review of Food Labelling Law and Policy. For more information see the FSANZ website:

www.foodstandards.gov.au

Administration of legislation

States and territories have enacted Food Acts based on model food provisions as agreed under the Food Regulation Agreement 2002. Also under the agreement, states and territories have adopted the Code through their Food Acts. The model for administration of Food Acts differs between jurisdictions with either state and territory governments taking sole responsibility or responsibility being shared between State Government and local government.

The Australian Quarantine Inspection Service (AQIS) is responsible for the control of imported food which must also comply with the Code.

States and territories have traditionally regulated food safety in the domestic meat, dairy and shellfish industries under Primary Industry Acts, administered by primary industry departments. In recent times there have been moves in some jurisdictions to integrate this legislation into single Primary Industry Acts or modified Food Acts, with corresponding changes in administration. AQIS has responsibility for food safety regulation of the export meat, dairy and shellfish industries. Some jurisdictions, in some industries, share enforcement responsibilities between AQIS and states/territories.

Developing and overseeing a consistent approach across jurisdictions to the implementation and enforcement of food regulations and standards (regardless of whether food is sourced from domestic producers, export-registered establishments or from imports) is the role of the Implementation Sub Committee (ISC) – a sub committee of the Food Regulation Standing Committee (FRSC).

ISC members are either heads of their agencies or operational experts at senior level with capacity to make and implement decisions about enforcement issues in their jurisdictions. The membership comprises up to two representatives from each state and territory; one representative from each of the Commonwealth Departments of Health and Ageing, Agriculture, Fisheries and Forestry – Australia and AQIS; FSANZ; one representative from New Zealand; and one representative from the Australian Local Government Association. SA Health is represented by the Director of Food Policy and Programs Branch.

ISC developed a strategy for consistent implementation and enforcement of food regulation in Australia that incorporates a rolling work plan and contains eight components, each sponsored by an ISC member. The strategy was endorsed by the Australian and New Zealand Food Regulation Ministerial Council (Ministerial Council) in October 2005. It was updated by ISC in July 2007. ISC reports at each FRSC meeting on progress with the rolling work plan and specific projects. FRSC reports annually to the Ministerial Council against the key performance measures. The strategy is available from the Food Regulation Secretariat website: www.foodsecretariat.health.gov.au

Through its Strategic Plan 2009–2014, FRSC established six priorities for ISC in 2009–10. The following six ISC priorities sit within Priority 4 (*Consistency of implementation improved*) and Priority 7 (*Evidence base and evaluation capability improved*) of the FRSC strategic plan:

1. The integrated model for standards development and consistent implementation piloted on the Eggs Primary Production and Processing Standard.
2. National framework for auditor management operating.
3. National enforcement policy operating (including road-testing with local government).
4. Consistent Interpretation of Regulatory Standards.
5. Food surveillance system linkages scoping project completed.
6. Framework for evaluation of ISC strategic plan implementation.

In 2009–10 ISC proposed changes to the component structure of the '*ISC Strategy for Consistent Implementation of Food Regulation*'. The changes were endorsed by FRSC in March 2010. It still incorporates a rolling work plan and contains eight components each sponsored by an ISC member. Details of the new eight components are provided below.

SA Health is sponsor of Component 3 – Food Safety Incident Response and Management Systems, with the aim of maintaining an effective system for the management of national food safety incidents.

Component 1: Surveillance and monitoring

This component will act as an intelligence gathering arm for ISC. Through the ongoing surveillance activities of the coordinated food survey plan (CFSP), the regulatory environment is monitored on a continual basis. Information gathered from the CFSP may then be used to inform the standards development process, assess the impact of existing standards or in the general monitoring of the food environment. In moving the CFSP forward, it is intended that risk management and communication strategies will be included in survey designs, so that reports from the CFSP to ISC address the impacts of making reports publicly available.

Component 2: Implementation planning for new standards

By conducting the pilot of the integrated model for standards development and consistent implementation of the Primary Production and Processing Standard for Eggs and Egg Products, the value of considering implementation processes for significant new national standards during the standards development process has become apparent. This component has been designed to enable matters related to consistent implementation for significant new national standards to be addressed as they arise.

Component 3: Food safety incidence response and management systems

This component will continue to have responsibility for implementing and assessing the effectiveness of the National Food Incident Response Protocol.

Component 4: Coordinate food regulation between agencies and Local Government

One of the major issues raised by stakeholders at the June 2009 ISC stakeholder forum was inconsistent interpretation of food regulatory standards at the Local Government level. During 2010–12, it is proposed that ISC develops a compliance toolkit to facilitate consistent implementation by Local Government. It is intended that the toolkit will include a Local Government engagement mechanism, model inspection/assessment guidelines for Local Government to apply to retail and food service businesses, and a national framework for publicly available performance reporting for Local Government to apply to retail and food service businesses.

Component 5: Compliance planning for existing standards

Over the last two years, ISC has developed compliance arrangements for various existing standards in Chapters 1 and 2 of the Food Standards Code. The most notable recent example is the development of a compliance and enforcement strategy for the mandatory fortification of foods. In moving forward, this component will examine such issues as they arise. Development of a compliance strategy for Standard 2.6.4 (Formulated Caffeinated Beverages) has commenced.

Component 6: Best practice regulation

This component develops strategies to allow the effectiveness of consistent implementation tools (for example National Regulatory Food Safety Auditor Guideline) developed by ISC to be assessed. The strategies will include distribution of these tools to stakeholders, and then monitoring and assessing their effectiveness and reporting such information back to ISC. Immediate tasks for this component are to develop implementation strategies for the National Regulatory Food Safety Auditor Guideline and the Australia New Zealand Enforcement Guideline.

Component 7: Communications and stakeholder relationships

A process for proactive engagement of stakeholders in ISC projects was a major development area suggested at the June 2009 ISC stakeholder forum. This component is tasked with developing a comprehensive stakeholder relations package during 2010–12. This package will consist of a stakeholder 'map' and a relations protocol to guide stakeholder engagement, consultation and communication processes.

Component 8: Performance measurement and reporting

This component undertakes development of performance indicators to assess the effectiveness of the strategy.

SA Health contributes to the work of ISC in a number of ways, for example through participation in working groups, nationally coordinated surveys and incident response, and as the Component 3 sponsor. In 2009–10 SA Health contributed to the work of ISC as described below.

Component 1: Surveillance and monitoring

Coordinated Food Survey Plan (CFSP)

The priorities for the Coordinated Survey Plan 2009–2012 are:

- (i) Where necessary generate or compile data and the relevant information in support of key Primary Production and Processing Standards e.g. horticulture (Australia only).
- (ii) Support the implementation and monitor the impact of nutrition and health claims and fortification regimes.
- (iii) Promote greater coordination and consistency in the testing conducted on imported food compared to that undertaken on domestically produced food.
- (iv) Contribute to knowledge, in support of scientific assessments and the management, of microbiological and chemical emerging issues, including outbreaks.

In 2009–10 ISC endorsed reports for three surveys undertaken under the auspices of the CFSP. South Australia participated in all three surveys:

1. Baseline survey on the prevalence of Salmonella and Campylobacter in chicken meat on farm and at primary processing.
2. Microbiological survey of fresh horticultural produce in Australia.
3. Survey of spices for the presence of pathogens in Australia.

Component 2: Implementation planning for new standards

National Primary Production and Processing Standard for Eggs and Egg Products

During 2009–10, SA Health continued to participate as a member of the Egg Implementation Model Work Group (EIMWG), charged with developing a package for the consistent implementation of the Primary Production and Processing Standard for Eggs and Egg Products.

Consultation on the draft implementation package was conducted with egg industry members of the FSANZ Standards Development Committee, who provided support for the package.

The draft implementation package was provided to ISC in 2009–10 and consisted of a compliance plan, model food safety management statement templates and response material for use once the standard has been gazetted.

The EIMWG recommended to ISC support for the concept of the development of the implementation package in parallel with the development by FSANZ of the Primary Production and Processing Standard for Eggs and Eggs Products.

Guidance for Regulators on Granting Permission to Alter Date Marks

A guideline to ensure consistency among regulators when considering requests to alter the date marks on food labels and avoid duplication where product is sold in more than one jurisdiction was developed by ISC in 2009–10. SA Health participated in the working group which undertook the work.

The date marking applied by a food manufacturer is dependent on the temperature of storage. Once the storage condition of the food is changed, the original date mark may no longer be appropriate. The manufacturer of the food is best placed to apply for changes to date marks on food in situations where storage conditions have been altered. When seeking permission to change date marks, evidence of the continued safety and suitability of the food must be provided to the relevant authority (e.g. shelf life information).

Application to alter date marks on food products is not restricted to food manufacturers, for example retailers and distributors may also apply. When granting permission to alter date marks, the relevant authority must have regard to the following overarching objectives, in priority order:

- the protection of public health and safety
- the provision of adequate information relating to food to enable consumers to make informed choices, and
- the prevention of misleading or deceptive conduct.

Component 3: Food safety incidence response and management systems

SA Health is the ISC sponsor for Component 3 of the ISC work plan.

Review of the food recall process and protocols

In 2009–10 ISC agreed that FSANZ should undertake a continuous improvement approach for the food recall process through an annual review with input from states, territories and industry. As part of the process a workshop of state and territory recall officers was held in May 2010, at which SA Health was represented. Outcomes of the review conducted in 2009–10 will be presented to ISC in 2010–11.

National food incident response protocol

Most food incidents are limited to a single state, however modern food distribution and retailing increases the possibility that a food incident may emerge across a number of states/territories.

The National Food Incident Response Protocol provides a mechanism for jurisdictions to respond to national food incidents in a timely, appropriate, consistent and coordinated manner. Past experiences of food regulatory agencies has highlighted the importance of coordination between jurisdictions during a food incident. The protocol endorsed by the Ministerial Council in May 2007 is available from the Food Regulation Secretariat website:

www.foodsecretariat.health.gov.au

In the year 2009–10, SA Health participated in two national incidents under the National Food Incident Response Protocol:

- Hepatitis A linked to Semi Dried Tomatoes. Semi-dried tomatoes were implicated as the cause of a higher number of cases of Hepatitis A than normal in particular in Victoria, but also in NSW, WA and Tasmania.
- Thyroid dysfunction linked to Bonsoy Soy Milk. Nine adults and one infant in New South Wales were reported with thyroid disturbances possibly linked to consumption of Bonsoy, a soy milk product. Analysis of Bonsoy samples in separate laboratories in NSW and Victoria revealed very high levels of iodine.

In 2009–10 ISC added three annexes to the protocol:

1. Intentional contamination in food
2. Chemical contaminants in food
3. Consistent principles for foodborne illness environmental investigations.

Component 4: Coordinate food regulation between agencies and Local Government

A major component of the ISC *'Strategy for consistent implementation and enforcement of food regulation in Australia'* is to engage local government and local government associations throughout Australia in the national food regulatory process. In particular, engagement in the area of consistency, and implementation of food regulation through the ISC process, is important.

In 2009–10 ISC agreed to the formation of a working group, at which SA Health is represented, to:

1. Devise a system for a consistent approach to reporting of local government inspection/enforcement activity, including consistent terminology.
2. Investigate the development of a food business rating or grading system based on the use of the consistent interpretation and reporting system.

Component 5: – Compliance planning for existing standards

Consistent implementation and enforcement of the mandatory folic acid fortification – Standard 2.1.1 Cereals and Cereal Products

The standard came into effect in September 2009. During the introductory phase, an ISC National Implementation Strategy was developed. As a result, all major flour millers in South Australia have been visited. Compliance audits by SA Health have been planned for conduct as part of a national survey being undertaken in 2010–11 under the auspices of the ISC Coordinated Food Survey Plan. During this survey flour millers will be assessed for compliance against their quality assurance records and test results from composite samples.

Compliance and monitoring strategy for GM food

In 2009–10 SA Health contributed to the development of an ISC National Compliance and Monitoring Strategy for GM food. The strategy establishes a framework that enables consistent and effective monitoring and surveillance of Standard 1.5.2 – Foods produced using Gene Technology of the Food Standards Code across jurisdictions. ISC endorsed this strategy in 2009–10.

A compliance protocol for GM foods is also being developed. It is anticipated that a draft package for public release comprising the Compliance and Monitoring Strategy for GM foods and the compliance protocol will be submitted to ISC in 2010–11.

Component 6: Best regulatory practice standards

Food Medicine Interface

The ISC Food Medicine Interface Working Group was established to develop an agreed process through which regulators can identify the regulatory regime appropriate for dealing with a particular product or group of products that sit at the food-medicine interface.

In 2009–10, ISC noted the final report of the Food Medicine Interface Working Group which supported a parallel Australia and New Zealand food-medicine interface process for considering products of this nature and agreed that the Working Group be disbanded. The report is available from the Food Regulation Secretariat website:

www.foodsecretariat.health.gov.au

Australia and New Zealand Enforcement Guideline

SA Health participated in the ISC working group that developed the Australia and New Zealand Enforcement Guideline (the Guideline). It sets out guidelines for graduated food regulatory enforcement activity (including public health, food authority and primary industry portfolios) within all jurisdictions.

The Guideline is available from the Food Regulation Secretariat website: www.foodsecretariat.health.gov.au

Implementation of the National Food Safety Audit Policy and Regulatory Guideline

The National Food Safety Audit Policy (the Policy), which outlines a nationally consistent approach to the management of food safety audits and food safety auditors, was endorsed in 2006. As a result of the release of the Policy a national working group with representatives from all jurisdictions was formed to develop a guidance document on the consistent implementation of this policy. The National Regulatory Food Safety Auditor Guideline (the Guideline) was endorsed on 5 November 2009 and published on the Department of Health and Ageing's Food Regulation Secretariat website on 19 November 2009.

The Guideline is intended to serve as an advisory document to food regulators on how to implement the Policy. The guideline contains the National Regulatory Food Safety Auditor Framework which contains the minimum competencies required by food safety auditors. The Framework was endorsed in December 2008.

The Guideline aligns elements of the Policy with the industry National Food Safety Auditor (NFSA) Scheme and outlines the recommended minimum elements of a regulatory audit system to demonstrate compliance with the Policy. The Guideline is considered a 'living document' because it will be periodically updated as new information comes to light.

Administration of the *Food Act 2001* in South Australia

In South Australia, the *Food Act 2001* and the Australia New Zealand Food Standards Code are administered jointly by the Department of Health and local government.

Responsibilities of SA Health

The department is responsible for the following:

- Oversight of administration of the Act
- Monitoring compliance with labelling, composition, microbiological and chemical requirements of the Code throughout SA
- The safety and suitability of food sold, and monitoring and enforcement of compliance with Food Safety Standards in unincorporated areas of the State (85% of the geographical area of SA)
- Monitoring food safety related incidents and initiating appropriate responses
- Providing advice to local governments dealing with minor food borne disease outbreaks in their areas and leading investigations and remediation of more significant outbreaks
- The exercise of emergency powers to remove, prevent or reduce the possibility of a serious health risk including initiation and coordination of food recalls
- Providing advice, support and assistance to local government
- Providing advice to food businesses and the public on food issues
- Advising the Minister on issues pertaining to the application of the Act and food issues generally.

SA Health's responsibilities are delivered by:

Food Policy and Programs Branch

The branch is responsible for the day-to-day administration of the Food Act, as described above (except for the role of the Regional Services Section as described below). More specifically, the branch prepares advice to senior department staff and the Minister for Health on food issues, development of legislation and proposed amendments to the Code. The branch monitors compliance with the Code and the results of surveys undertaken for this purpose are published on its website.

The branch conducts environmental investigations of major food poisoning outbreaks. This involves an immediate response to stop the supply of suspected food, the collection of food and environmental samples, analysis of food handling procedures to determine the cause of an outbreak and follow-up enforcement actions.

The branch also participates in the development of state and national food regulatory policy and contributes to national programs which facilitate a consistent approach across jurisdictions to the implementation and enforcement of food regulations and standards. The branch also provides advice on significant issues and assistance to the food industry in the implementation of significant new legislation.

Communicable Diseases Control Branch

Under the Public and Environmental Health Act 1987 laboratories and medical officers are required to notify occurrences of food borne disease to the department's Communicable Diseases Control Branch (CDCB). Monitoring and analysis of these reports by CDCB provides an alert for food borne disease outbreaks in the community. CDCB also conduct follow-up interviews with affected persons, including an assessment of foods eaten during the days prior to the onset of the illness, to trace potential causes of a food borne disease outbreak. The application of statistical tools can assist in identifying the likely food or business responsible for the outbreak.

Regional Services Section of the Applied Environmental Health Branch

The Regional Services Section administers the Food Act to 'unincorporated' areas of the state (not serviced by a local council). This primarily involves remote areas of South Australia.

Details of surveillance activities have been reported in a manner consistent with data collated from local government surveys and are contained in the following tables.

Authorised Officer Qualifications

	Environmental Health Degree	Full-Time
Authorised Officers	3	3

Food Business Inspections and Food Safety Risk Categories

Inspections	Food Safety Risk Classification			Totals
	High	Medium	Low	
Number of Businesses	1	100	2	103
Inspections Conducted	1	122	2	125
Follow-up Inspections	1	21	0	22

Enforcement Actions Conducted 2008-09

Business Type	Warnings	Improvement Notice	Expiation
Bakery	0	0	0
Hotel/Pub/Tavern	0	2	0
TOTALS	0	2	0

Roles and responsibilities of local government

Local government is responsible for the following functions within its jurisdiction:

- Safety and suitability of food sold, and monitoring and enforcement of compliance with Chapter 3 of the Australia New Zealand Food Standards Code, including undertaking appropriate food premises inspections
- Managing minor food borne disease outbreaks within council boundaries and assisting the department with investigations into any significant food borne disease outbreaks within SA
- Monitoring and taking action as appropriate to ensure efficiency with which food is recalled for health and safety reasons, and/or is removed from sale
- Receiving notifications from food businesses.

Environmental Health Officers (EHOs) representing local councils are the front line for food safety in South Australia. EHOs routinely inspect food businesses to ensure that the premises, equipment and the standard of food handling will result in the supply of safe and suitable food. A key part of their role is the provision of advice and educational materials to food businesses. They also respond to complaints about food businesses and investigate food poisoning outbreaks independently, or with the assistance of officers from the department.

Effective administration

Establishing Roles and Responsibilities with Local Government

The Memorandum of Understanding (MOU) between the Minister for Health and the Local Government Association of SA (LGASA) for the exercise of functions under the *Food Act 2001* establishes the roles and responsibilities of the department and local councils.

The MOU was reviewed during 2007–08 and the Minister for Health and the President of LGASA signed the revised MOU in February 2009. The revised MOU was tabled in the South Australian Parliament on 18 February 2009.

A key addition to the revised MOU is a commitment to establish a work program for joint food regulation activities. This working group is being established jointly by the Food Policy and Programs Branch and LGASA.

SA Health and Local Government Working Together

The MOU also includes a requirement for SA Health and the LGASA to establish a joint work plan to continuously improve food safety and the effectiveness of the *Food Act 2001*. In October 2009 a working group with representatives from SA Health, local government and Environmental Health Australia was established to develop and oversee a work program as agreed in the MOU.

The working group agreed on a number of key priorities for the work plan, including:

- Improving consistency in the application of the Food Act 2001
- Reviewing and improving current systems
- Developing and supporting a skilled workforce
- Supporting small and remote Councils
- Exploring a state wide food safety rating system.

The working group will meet quarterly to review the progress of the plan and report annually to the Public and Environmental Health Council and LGASA executive.

Food Special Interest Group of the SA Division of Environmental Health Australia (Food SIG)

SA Health has continued to maintain an association with the Food Special Interest Group (FoodSIG). Environmental Health Australia (EHA) conducts FoodSIG meetings for the purpose of providing professional development to Environmental Health Officers relating to food safety and food legislation.

The group consists of city and regional Environmental Health Officers (EHOs) and State Government (SA Health) representatives. The goal of the group is to draw on the depth of knowledge and to promote new ideas and thinking in relation to food safety enforcement and assessment.

The Food SIG holds regular discussions on the interpretation of various components of the Food Safety Standards to encourage consistent enforcement of legislation. Other major topics routinely discussed by the SIG during the reporting period include:

- Support for the maintenance of food safety standard 3.3.1 by providing updates on consistent interpretation and enforcement of mandatory food safety programs and audit requirements
- Promoting effective communication and improved understanding of roles between Commonwealth, state and local regulators
- Development and support for smaller working parties to discuss concerns around technical matters
- Food Bulletin discussions (i.e. vacuum packaging of 'ready to eat' foods).

SA Division of Environmental Health Australia and the Department of Health Executive Bi-monthly Meetings

SA Health meets with Environmental Health Australia (EHA) bi-monthly to discuss and share information on topical issues. The meeting also provides a forum for communicating policy interpretation, implementation of new legislation and flagging potentially significant issues.

Topics addressed throughout the year included:

- National enforcement policy
- MOU working group and work program
- National Primary Production and Processing Standard for Eggs and Egg Products
- Risk profiling
- Review of the Food Safety Management Policy Guideline
- SA Health and Local Government Planning Day
- Implementation of the Seafood Standard
- EHO knowledge base.

This group no longer convenes as EHA is a member of the SA Health LGA MOU Working Group where a number of these issues will be considered.

Establishing Roles and Responsibilities with Biosecurity SA (A Branch of PIRSA)

To maintain food safety through all stages, from primary production to the consumer, the responsibilities and cooperative arrangements between the department, Biosecurity SA and local government are defined through the following:

1. MOU between the department and Biosecurity SA for Surveillance, Incident Response and Regulation of Food Safety in the Primary Industry Sector in South Australia.
2. MOU between the Minister for Agriculture, Food and Fisheries, Minister for Health and Local Government Association of SA: regarding management of food safety at accredited meat processors in South Australia'.

Activities of Food Policy and Programs Branch

Monitoring Compliance with the *Food Act 2001*

The Food Policy and Programs Branch conducts sampling surveys of various foods that are of public health concern, or to confirm compliance with the compositional and labelling requirements of the Code.

The surveys completed by the branch in 2009–10 include:

- I. Allergens
- II. Microbiological Quality of Cooked Chickens
- III. Microbiological Quality of Infant Formula
- IV. Microbiological Quality of Raw Vegetables
- V. Microbiological Quality of Bottled Water
- VI. Histamine in fish
- VII. Microbiological Quality of Raw Chicken
- VIII. Microbiological Quality of Raw Eggs
- IX. Microbiological Quality of Ready to Eat Meals
- X. Microbiological Quality of Bakery Products
- XI. Additives in Cheese Products

Complete reports for the surveys can be found in Appendices I to XI.

Past and current surveys listed above can be found on the branch website at www.health.sa.gov.au/pehs – click on 'Food'.

South Australian participation in National Food Surveys – ISC National Coordinated Survey Plan

The ISC national coordinated survey plan consists of surveys which are selected to gather information on current national issues of food safety and compliance. The Food Surveillance Network, consists of representatives from FSANZ, States and Territories. During this reporting period the department participated in surveys for Bread Fortification Monitoring Program and Iodine in Beverages Survey. Sampling has been completed and analysis has commenced. Findings are due to be presented within the next reporting period.

Investigation of serious issues 2009–10

During the year 2009–10, a number of significant issues were investigated and are summarised below. Incidents and/or issues can be notified from a variety of sources including routine food surveys conducted by the Food Standards Surveillance Section, complaints from members of the public, reports from the food industry itself, Environmental Health Officers in local government, other regulatory agencies, or laboratory notifications from the Communicable Disease Branch (CDCB).

Incidents investigated as the result of outbreaks identified through epidemiological studies conducted by CDCB are reported separately and can be found on page 30.

Investigations initiated as a result of reported illness

In all, 26 serious incidents involving reported illness were investigated; 16 of these incidents required collaboration with other agencies including interstate authorities, local government and other regulatory agencies in South Australia. The remaining 10 incidents were investigated, environmental assessment (including hygiene, preparation and handling practices) and microbiological swabs and sampling was conducted. All investigations resulted in restricting or eliminating further cases of infection.

Investigations initiated as a result of surveillance activities

A further 59 issues were investigated as a result of information obtained from surveys, routine inspections and consumer complaints. Three serious issues were investigated including one incident resulting in the issue of an Improvement Notice by SA Health on a business to cease operations until specified conditions were met. Twenty-two major investigations were conducted resulting in the issue of warnings by SA Health or implementation of corrective actions by the food businesses concerned. Thirty-four minor investigations were instigated resulting in outcomes that could not identify a breach of food safety standards.

Food Recalls

During the 2009–10 financial year there was a total of 52 Food Standards Australia New Zealand (FSANZ) food recalls. The recalls consisted of 11 trade level recalls, where the company recovers the product from distribution centres, wholesalers and food services (for example restaurants) as the product has not been released in retail stores and can easily be retrieved. A further 41 recalls were consumer level recalls, where the product is recovered from retail outlets and from consumers. The manufacturers who voluntarily recalled their product through the FSANZ recall officer do so because a food safety risk is identified. Most voluntary recalls are precautionary and are not associated with cases of illness. Food recalls, whether initiated voluntarily or by a state or territory agency, are nationally coordinated by FSANZ.

The food business undertaking a recall is responsible for ensuring that the recall is carried out as soon as an issue is identified. Standard 3.2.2 requires a food business that engages in the wholesale supply, manufacture or importation of food, to have a system in place to ensure the recall of unsafe food. This usually includes advertisements in newspapers informing consumers of the recall. SA Health informs local councils of the recall and requests that they check food businesses in their area to ensure they are acting on the recall.

Table 1. Type, reasons and the states involved in each of the recalls

No. of Recalls	Type of Recall	Reason for Recall	SA Only	All States & Territories	SA & Min of one other State Affected	SA not affected
52	Consumer – 41	Microbiological – 23				
	Trade – 11	Labelling – 14	0	8	11	33
		Foreign Matter – 10				
		Chemical – 5				

Department of Health Enforcement Actions in the 2009–10 year

Routine food business inspections are the responsibility of local government. SA Health does however become involved in compliance matters in the course of surveys, complaints and investigation of illness. As a result, identified non compliance of food business is managed through application of the nation enforcement policy. The table below demonstrates a graduated proportionate response when dealing with these issues.

Letters of Warning	Expiations issued	Improvement Notices	Prosecutions
5	3	1	0

Complaints/Enquiries received

SA Health receives complaints and enquiries from a number of sources through the year. The following table has been extracted from records to identify the source and nature of calls to enable strategic planning.

By Source	Total	By Nature	Total	By Issue	Total
Public	357	Complaint	149	Food Composition	20
Industry	126	Enquiry/Advice	455	Food Recall	4
C/wealth	2			Food Safety Standards	300
State Govt Dept	14			Labelling	123
Local Government	105			Notification	69
				Unsafe-Unsuitable Food	110

Food Safety Management

Food Safety Programs (FSPs)

Food safety programs have been mandated nationally for businesses providing food to vulnerable populations in hospitals, aged care facilities, childcare centres, and via delivered meals organisations such as Meals on Wheels.

National Food Safety Standard 3.3.1 (audited mandatory food safety programs for food services to vulnerable persons) became enforceable in South Australia in October 2008. The department is continuing to work with industry and local government and is developing monitoring and review systems, to ensure effective management of the audit process in SA food businesses to whom this standard applies.

The department has continued to conduct food safety audits of public hospitals and not-for-profit delivered meals organisations including Meals on Wheels. In 2009–10 the department has continued to audit facilities at the frequency determined by the performance of individual sites, in line with the priority classification for these businesses. The department has commenced first round audits of the Meals on Wheels cook/chill (serve only) facilities.

Risk Classification	No of Businesses	Routine Audits
Public hospitals	72	92
Not for profit delivered meals organisations	45	43

Development of the auditor workforce is ongoing, as is the monitoring and review of systems and resources.

Food Safety Program Information Sessions

To continue to support the consistent interpretation and enforcement of Standard 3.3.1 the department has conducted information sessions and presentations for stakeholders on the progress and common outcomes of food safety program auditing.

In 2009–10 the department presented at one country workshop in the South East Region, one industry breakfast for The Institute of Hospitality in Health Care, an infection control seminar and an information session for auditors in conjunction with Biosecurity SA Plant and Food Standards and RABQSA.

Start Right Eat Right for Child Care Centres

The *Start Right Eat Right* program focuses on nutrition and food safety in child care environments.

The department has continued to work with the facilitators of the *Start Right Eat Right* program this year and has assisted by attending reference committee meetings, providing food safety training resources and contributing articles for industry newsletters.

Auditor Training for Department of Health and Local Government Officers

The department has continued to facilitate the Lead Auditor in Food Safety Management Systems training sessions through SAI Global. This provides assurance that Department of Health and local government food safety auditors are competent to audit high risk food businesses. One training session was conducted this financial year, bringing the total number of training sessions provided to seven. One hundred and nine professionals from the department and local councils have now attended these sessions. A further training session is anticipated in 2010–11.

An inaugural auditor forum was held this year to assist with improving consistency of interpretation and professional development for the auditor workforce. This auditor forum will continue to be held annually.

Biosecurity SA (A Branch of Primary Industries and Resources SA (PIRSA))

Under the Memorandum of Understanding (MOU) with SA Health, Biosecurity SA officers conduct inspections as authorised officers under the Food Act 2001 at retail outlets where Biosecurity SA legislation requires accreditation (e.g. retail butchers).

Five Biosecurity SA officers are authorised officers under the Food Act 2001. Throughout 2009–10, 1161 audits were conducted where a component of the audit addressed retail activities.

One hundred and eighty two enforcement actions in the form of Corrective Action Requests, Improvement Notices or Prohibition Orders were issued under the Food Act 2001 during 2009–10. There was one incident resulting in the seizure of 70kgs of out of date product and two expiations were issued, both relating to lack of suitable pest control.

Presentation to Students/Education Institutions

Food Policy and Programs Branch provided food safety and food legislation presentations to interested groups and organisations including:

- Adelaide University medical students on food safety and food borne illness
- Flinders University nutrition students on food law in general and the process involved in development of Food Standards
- Institute of Hospitality in Health Care on food borne incident investigation and food recall protocols.

Food Safety Week

Food Safety Week is a national event organized by the Food Safety Information Council, a government–industry body. The Food Safety Information Council (FSIC) is Australia's leading disseminator of consumer-targeted food safety information.

The theme for November 2009 was *Safe Food – Smart and Great Value*. SA Health and Adelaide City Council staff worked on an information display in Rundle Mall for two days and did a number of media activities to promote food safety information to the community.

The FSIC's basic food safety targets were:

- Avoid the temperature danger zone – serve hot food steaming hot. Put leftovers into the fridge as soon as they stop steaming. Chill all food as soon as possible after cooking or buying. Make sure your fridge is clean, uncluttered and 5°C or below. Ask for ice when buying seafood.
- Cook chicken, rabbit, sausages, minced meat dishes, hamburgers, rolled and stuffed meats right through, until the juices run clear.
- Separate foods that are raw such as chicken, meat and dirty vegetables from foods that are ready to eat such as salads, cooked meats etc. Make sure raw chicken and meat are stored below other foods in the fridge to avoid cross contamination.
- Keep cooking utensils and all surfaces your food will touch scrupulously clean to avoid contamination with food poisoning bacteria and viruses.
- Clean your hands. Hands should be washed with soap under warm, running water for 20 seconds and dried for 20 seconds.

The department also made available a \$500 grant to councils that developed innovative ways to communicate the Food Safety Week theme to their constituents. The councils that were successful in obtaining the grants were:

- Holdfast Bay – promoted the Food Safety Week via their website, cooking tips and food safety tips
- Tumby Bay – arranged barbeques and information sessions
- Charles Sturt – prepared two informal morning teas to educate communities about food safety and healthy choices
- Marion – community education event barbeques
- Alexandrina – organised information sessions (healthy eating) for staff and communities
- Adelaide – joint information stand in the mall with SA Health
- Whyalla – produced a cooking hand book and a food safety brochure
- Adelaide Hills – arranged for a food safety information presentation with guest speaker
- Eastern Health Authority – staff worked on an information display in Northpark Shopping Centre and provided food safety information to communities.

Communication and consultation

To facilitate communication and consultation with stakeholders, the department used a number of different mechanisms this year:

Food Regulation Inter-Departmental Committee

The SA Government Food Regulation Interdepartmental Committee (IDC) was established in October 2005 to facilitate improved communication and consultation between relevant government organisations regarding food regulation matters.

The South Australian government departments represented are:

- Department of Health (chair, secretariat)
- Department of Premier and Cabinet
- Department of Primary Industries and Resources South Australia
- Department of Trade and Economic Development
- Attorney General's Department – Office of Consumer and Business Affairs.

The Terms of Reference are:

- Consider food regulation, policy and industry compliance issues
- Actively share information that may be relevant or of interest to South Australian Government agencies in relation to food regulation and policy
- Consider issues referred to it by Government, Ministers or the Premier's Food Council
- Advise the Minister for Health and other relevant Ministers on food regulation and policy issues.

The IDC meets prior to the Australian New Zealand Food Regulation Ministerial Council meetings. The committee convened once in 2009–2010 and also considered matters out-of-session.

Productivity Commission

The Productivity Commission received a request from government to commence the second year of the Performance Benchmarking of Australian Business Regulation in December 2008. The Council of Australian Governments (COAG) Business Regulation Working Group agreed that the Commission should benchmark the burdens on business arising from Food Safety Regulation. The final report was released in December 2009 and is available on the Productivity Commission website: www.pc.gov.au/projects/study/regulationbenchmarking/food-safety

Food Regulation Reform

COAG agreed in December 2009 to reform voting arrangements for the Ministerial Council. It was agreed that where decisions of the Ministerial Council are unable to be made by consensus, two-thirds majority voting would be used.

COAG also agreed to pursue reforms to improve national consistency in monitoring and enforcement. In May 2010, the Ministerial Council considered a draft Intergovernmental Agreement relating to this reform, which establishes a centralised advice system designed to provide nationally consistent and useful information on food standards.

COAG is expected to consider progress on this reform area in 2010–2011.

Other

Food Policy and Programs Branch provides briefings and presentations as required and attends meetings (by invitation) of:

- Council of Australian Governments (COAG) working groups and sub committees
- Australian Health Ministers Advisory Council (AHMAC)
- AHMAC Australian Population Health Development Principal Committee (APHDPC)
- Australian Health Ministers Conference (AHMC).

Premier's Food Council Inter-Agency Food and Wine Issues Group

The Food and Wine Issues Group is a whole of government group of senior public servants who have the authority to commit the support and resources of their agencies to support implementation of the State Food Plan, and to address issues raised by the Premier's Food Council. SA Health is a member of the Issues Group and attended the two meetings that were held in October 2009 and April 2010.

SA Meat Food Safety Advisory Committee

The department continues to participate as a member of the South Australian Meat Food Safety Advisory Committee under the Primary Produce (Food Safety Schemes) (Meat Food Safety Advisory Committee) Regulations 2005. The committee considers issues pertinent to management of the Primary Produce (Food Safety Schemes) (Meat Industry) Regulations 2006 under the *Primary Produce (Food Safety Scheme) Act 2004*.

Food Borne Disease Investigations in South Australia in 2009–2010

Introduction

The Communicable Disease Control Branch (CDCB) of SA Health conducts epidemiological investigations into food borne disease outbreaks in conjunction with Local Government Environmental Health Officers and the Food Policy and Programs Branch, which provide food technology and environmental investigation expertise and perform environmental and food premises investigations. Primary Industry and Resources South Australia (PIRSA) staff also assist in trace back investigations. The Institute of Medical and Veterinary Science (IMVS) conducts microbiological testing and molecular typing of food and environmental samples and isolates.

Epidemiological information including food histories of cases, environmental reports of on-site visits to premises and laboratory results of stool and food samples are collated to provide a descriptive analysis of clusters of cases. This information helps determine the appropriate analytical approach should further investigation be required.

Epidemiological analysis may demonstrate a statistical association between illness and the consumption of a particular food item or eating at particular premises. Microbiological and molecular evidence can support an association when a very similar or identical microorganism is found in both cases and a food vehicle suspected on epidemiological grounds.

The specific food vehicle or source of an outbreak is difficult to identify as often there is no remaining implicated food at the start of the investigation. Additionally, faecal samples from affected persons are not always provided for testing.

SA Health investigated nine outbreaks of gastrointestinal illness which were known or suspected to be food borne during the period July 2009 to June 2010. Two outbreaks were associated with camps, two with private functions, one with a catered event, one with a restaurant, one with a bakery, one was a community outbreak and one was associated with a training facility.

In addition, eight clusters of illnesses linked by a particular causative organism that are commonly, though not exclusively, food borne were investigated but the source was not identified. Where a cluster had cases associated with specific premises it may have been classified as an outbreak based on the strength of the association.

A summary of outbreaks and clusters investigated during 2009–2010 and their settings is presented in Table 1.

Outbreak No.1 Norovirus – Catered Event

SA Health investigated an outbreak of 22 cases of gastroenteritis in people from two catered events in Adelaide in August 2009. Both events, a training course and a meeting, were served lunch that was prepared by the same caterer. An inspection by an environmental health officer of the caterer implicated contaminated food from a sick food handler. Advice was provided to the company regarding improvements in cleaning and sanitation. No further cases of illness were reported.

Outbreak No. 2 Suspected food borne gastroenteritis – Community

SA Health in association with a local government council investigated a community outbreak of gastroenteritis in September 2009. A total of eight cases of gastroenteritis in two groups of people from the same area were reported. Cases implicated two food premises in the same local government area; environmental inspection of premises did not reveal any issues of concern at either food premise.

Outbreak No. 3 Shiga toxin producing E.coli (STEC) – Camp

In November 2009 an outbreak of 31 cases of gastroenteritis in attendees at a four-day long camp was investigated by SA Health. Of these, six were confirmed to be caused by STEC. Environmental investigation at the camp site found no environmental sources of STEC. No food from the camp was available for testing. A cohort study of 240 camp attendees found that eating potato or pasta salad at the camp increased the risk of illness. The only common ingredient in the two salads was parsley; the source of the parsley is unknown. Advice was provided to the organisers regarding food safety and sanitation. No further reports of illness were received.

Outbreak No. 4 Norovirus – Restaurant

SA Health investigated an outbreak of gastroenteritis in diners at a hotel restaurant in November 2009. Initial reports indicated that members of at least two unrelated groups of diners became ill with gastroenteritis following a meal at the restaurant. A cohort study was conducted to investigate the outbreak. A total of 25 people reported illness after consumption of food at the restaurant. The study found that the illness was associated with consumption of a berry cheesecake. Following an environmental investigation of the restaurant, advice was provided regarding improvements to food safety and sanitation. No further reports of illness were received.

Outbreak No. 5 *Salmonella* Typhimurium phage type 44 (STM 44) – Private Function

SA Health investigated an outbreak of gastroenteritis in 16 out of 27 attendees at a Christmas Eve function held at a private residence. Six cases were confirmed to be caused by STM 44. A cohort study of all 27 attendees found that those who ate tiramisu were 4.7 times more likely to have gastroenteritis in the five days following the function than those who did not eat the tiramisu. The tiramisu contained raw eggs which were laid by private backyard chickens. Samples of leftover food and chicken faeces tested positive for STM 44. Advice was provided regarding improvements to food safety and sanitation. No further reports of illness were received.

Outbreak No. 6 *Salmonella* Typhimurium phage type 9 (STM 9) – Bakery

SA Health investigated an outbreak of STM 9 in January 2010. Following an increase in STM 9 notifications, all new notified cases were interviewed with a hypothesis-generating questionnaire. A total of 23 cases were notified from 1 January 2010 to 1 March 2010. Of these, nine cases were associated with a local bakery. No specific food source was identified. However, an inspection of the food premises identified a number of issues with food handling in the bakery which were addressed.

Outbreak No. 7 *Salmonella* Typhimurium phage type 9 (STM 9) – Private function

The investigation into the increase in STM 9 notifications in January 2010 also identified six cases of illness associated with a group function held at a private residence. Of those three people had samples confirmed as positive for STM 9. Nine people attended the function and another ate leftovers. A cohort study was conducted to investigate the outbreak. No specific food source was identified.

Outbreak No. 8 Suspected foodborne gastroenteritis – Camp

A suspected food borne gastroenteritis outbreak was reported to SA Health in April 2010. Forty-three out of a total 90 camp attendees reported illness during a weekend camp. A cohort study was conducted to investigate the cause of the illness. Following an environmental investigation of the venue, advice was provided regarding improvements to food safety and sanitation. No further reports of illness were received.

Outbreak No. 9 Suspected foodborne gastroenteritis – Training facility

A report of a suspected food borne gastroenteritis cluster in June 2010 was investigated by SA Health. A report was received detailing a vomiting and diarrhoeal illness within a very short time frame in 10 of 40 trainers after consuming food at a training facility. In addition to 40 trainers, there were 100 trainees at the training facility, however no trainees reported illness. Trainers and participants did not consume the same foods. A case series was conducted to investigate the illness. The epidemiological and laboratory investigations did not identify the cause of the illness. The source of these infections remains unknown.

Cluster 1: *Salmonella* Typhimurium phage type 108 (STM 108) – Community

A cluster of 21 cases of STM 108 infection was investigated by SA Health in July 2009. Cases were of varying ages and resided across a wide geographical range. No common epidemiological links were identified among the cases and the source of these infections remains unknown.

Cluster 2: *Salmonella* Anatum – Community

A cluster of five cases of *Salmonella* Anatum was investigated in August 2009. Hypothesis generating interviews were conducted with all cases. The source of these infections remains unknown.

Cluster 3: *Salmonella* Typhimurium phage type U302 (STM U302) – Community

A cluster of seven cases of STM U302 infection was investigated by CDCB SA Health in November 2009. Cases were of varying ages and resided across a wide geographical range. All cases were assessed with hypothesis generating interviews and no common links were identified. The source of these infections remains unknown.

Cluster 4: *Salmonella* Virchow phage type 8 – Community

A cluster of 15 cases of *Salmonella* Virchow 8 infection was investigated in December 2009. Thirteen cases were investigated with hypothesis generating interviews however the source of infection remains unknown.

Cluster 5: *Salmonella* Typhimurium phage type 135a (STM 135a) – Community

A cluster of 10 cases of STM 135a infection was investigated by SA Health in January and February 2010. Cases were of varying ages and resided across a wide geographical range. All cases were assessed with hypothesis-generating interviews and no common foods or other links were identified. The source of these infections remains unknown.

Cluster 6: *Salmonella* Typhimurium phage type 135a (STM 135a) – Community

An investigation into a cluster of STM 135a cases was initiated in March 2010. A total of seven cases were reported, of which five cases were aged three years and under. Cases were from different rural and metropolitan areas and no links between cases could be identified. The source of these infections remains unknown.

Cluster 7: *Salmonella* Typhimurium phage type 108 (STM 108) – Community

SA Health investigated a cluster of nine cases of STM 108 infection reported from 3 January to 3 April 2010. The cluster comprised six males and three females with an age range of one to 85 years. Four of the male cases were aged between 15 and 19 years. Seven of the cases were interviewed using a hypothesis-generating questionnaire. No common links or food source could be identified. The source of these infections remains unknown.

Cluster 8: *Salmonella* Typhimurium phage type 135a (STM 135a) – Community

A cluster of 10 cases of salmonellosis caused by STM 135a was investigated by SA Health in June 2010. Cases were of varying ages and resided across a wide geographical range. All cases were assessed with hypothesis-generating interviews. No common links could be identified and the source of these infections remains unknown.

Table 1: Summary of food borne or suspected food borne disease investigations in SA during the period 1 July 2009 to 30 June 2010

No.	Month	Organism	Location	No. ill	Transmission	Evidence
<i>Outbreak Investigations</i>						
1	Aug 09	Norovirus	Catered event	22	Food borne	D
2	Sep 09	Unknown	Community	8	Food borne	D
3	Nov 09	Shiga toxin producing E.coli	Camp	31	Food borne	S
4	Nov 09	Norovirus	Restaurant	25	Food borne	D
5	Dec 09	STM44	Private function	16	Food borne	S
6	Jan 10	STM 9	Bakery	9	Food borne	D
7	Jan 10	STM 9	Private function	6	Food borne	D
8	April 10	Unknown	Camp	43	Food borne	D
9	June 10	Unknown	Training facility	10	Food borne	D
<i>Cluster Investigations</i>						
1	July 09	STM 108	Community	21	Unknown	D
2	Aug 09	<i>Salmonella</i> Anatum	Community	5	Unknown	D
3	Nov 09	STM U302	Community	7	Unknown	D
4	Dec 09	<i>Salmonella</i> Virchow 8	Community	13	Unknown	D
5	Jan 10	STM 135a	Community	10	Unknown	D
6	Mar 10	STM 135a	Community	7	Unknown	D
7	April 10	STM 108	Community	9	Unknown	D
8	June 10	STM 135a	Community	10	Unknown	D

STM – *Salmonella* Typhimurium; S – Statistical; D – Descriptive

Local government activities under the *Food Act 2001* 2009–10

Under the *Food Act 2001 (the Act)* it is a mandatory requirement for local government councils to provide the department with information on their activities. For the purpose of this Annual Report, a request for information was circulated to all councils.

Councils are empowered under Parts 4 and 5 of the Act to ensure that hygienic standards are maintained in relation to the manufacture, transportation, storage and handling of food for sale under Chapter 3 of the Australia and New Zealand Food Standards Code. They are also responsible for taking measures to prevent the sale of unfit food and to investigate complaints related to the sale of unfit food. Environmental Health Officers (EHOs) are authorised under the Act to issue orders and notices and take action for breaches.

Authorised Officers

All EHOs must be authorised under Division 3, Section 94 of the Act to be able to enforce legislation under the Act. EHOs must have the necessary skills and knowledge to effectively perform their food-related responsibilities to gain authorisation.

Authorised Officers (Currently working in local government)	Environmental Health Degree	Other Qualifications	Not Provided	Auditors
139	70	30	39	28

Authorised Officers (Currently working in local government)	Full-Time	Part-Time
138	109	39*

* Numbers may be duplicated where EHOs are employed in more than one council

Inspections

To gain a better understanding of how inspections are organised and undertaken by local government, it was necessary to establish the size and make up of food businesses across South Australia. The following table establishes how many food businesses exist and the proportion of businesses by food safety risk categories. These figures have been combined with the number of inspections conducted by local government to ensure that planning and inspection frequencies are appropriate and maintained.

Inspections	Food Safety Risk Classification			Totals
	High	Medium	Low	
Number of Businesses	1 227	6 693	3 869	11 779
Inspections Conducted	1 081	4 976	1 966	8 023
Follow-up Inspections	495	1 743	127	2 635

Inspection Fees

The Food Regulations 2002, Part 4, Section 11 makes provision for enforcement agencies to impose an inspection fee. Following is a summary identifying the policy of Councils to impose inspection fees.

Council Inspection Fees	No. of Councils
Fee	31
No Fee	31
Not provided	2

Risk Classification	No. of Businesses	Routine Audits (Standard 3.2.1, 3.2.2 & 3.2.3)		Routine Inspections (Standard 3.2.2 & 3.2.3)	
		No. of audits conducted by your council	No. of audits conducted by your council (in your area)	No. of inspections conducted	No. of follow-up inspections conducted
Child Care Centres	238	248	63	34	8
Aged Care Facilities	285	224	223	49	10
Private Hospitals	37	17	18	12	3
TOTAL	560	489	304	95	21

Complaints

Consumer enquiries and reports of illness, non-compliant businesses or food, constitute an important source of information. In addition, they provide opportunities for the public to interact with EHOs first hand, a 'shop window' for food safety and give EHOs the opportunity to promote food safety. All complaints are logged and generally risk classified to ensure that the most serious cases are dealt with as a priority. The following table has classified complaints/reports into a list of most likely sources, in addition to reporting on whether the complaint and investigation was found to be valid or verified by an authorised officer.

Type	Complaints/Reports	Verified
Foreign Matter in Food	189	70
Micro Contamination	88	40
Chemical Contamination or Residue	6	2
Alleged Food Poisoning	250	15
Unclean Premises	127	54
Personal Hygiene or Food Handling	189	54
Pest Infestation	88	47
Refuse Storage	97	41
Labelling Issues	25	12
Others	121	37
TOTALS	1 180	372

Orders/Notices Issued to Food Businesses

The table below provides an indication of the nature of sanctions applied to each food business group. It can be seen from the table that a graduated response is generally in place, with warnings making up the largest single sanction applied, progressing to improvement notices and expiations as food businesses fail to respond or issues became more serious.

Enforcement Tools by Category

Business Type	No. written warnings issued	No. improvement notices issued	No. prohibition orders issued	No. expiations issued		No. of prosecutions
				Body Corp.	Natural person	
Aged care	7	1				
Bakery	82	46	1	1	7	
B&B/Motel	14	10				
Café	84	34		3	4	
Canteen	17	3				
Caterer	4					
Charitable	13					
Child Care	8	1		1		
Club	36	2				
Deli	24	22			1	
Delivered Meals						
Distributor				1		
Farm Gate Sales	3					
Fishmonger/ Seafood	5	14				
Fruit and Veg	16	13			1	
Function Centre	13					
Hospital	2					
Hotel/Pub Tavern	95	38		12	3	
Liquor Store	2					
Manufacturer	5	5	2	4		
Mobile Food Van	20	7			1	
Restaurant	73	69	2	6	18	
Service Station	21	14		2		
Snack Bar/Kiosk	32	27				
Stall	1	6				
Supermarket	47	31		2	1	
Takeaway	146	74	3	10	9	1
Temporary Business	1	5				
Other (please specify)	28	9		2	2	
TOTAL	799	431	8	44	47	1

Prosecution Register

On 1 July 2009 SA Health began publishing on its website details of businesses or individuals that have been found guilty by a Court of a breach of the Food Act 2001. This website is intended to provide information to the community regarding successful Food Act prosecutions, the most serious action available, undertaken by local councils and SA Health. The Food Act Prosecutions Register is available on the department's website:

www.dh.sa.gov.au/pehs/Food/Prosecutions-Register/Register.htm

Highlights of other local government activities

Local government undertakes additional food safety programs in support of their statutory roles. These programs include food safety training courses, food compliance surveys, presentations to food handlers and primary school students, and special activities for National Food Safety Week.

Food safety education

Alexandrina Council

The Alexandrina Council conducted several food safety presentations to various community groups, school groups and targeted food businesses by offering free training for food handling staff. The sessions have proved very popular and the presentations have been offered periodically throughout the year. Council also participated in Food Safety Week where Environmental Health Officers sourced recipes that were easy to make and supplied samples of these prepared recipes to participants, providing information about safely managing the high risk ingredients. Feedback was obtained through a questionnaire, and it was clear that this activity was not only well received, but that everyone participating learnt a great deal about food safety.

City of Charles Sturt

The Environmental Health Department's annual business plan contains a strong emphasis on providing food safety training to all food handlers within the City of Charles Sturt. Council's Environmental Health Officers developed and facilitated six free, food handler training sessions for food handlers of food premises within the City of Charles Sturt. The 2.5 hour sessions were extremely popular with more than 200 participants attending. Each patron received a certificate of attendance. An evaluation of the training identified patrons were either satisfied or very satisfied with the training and information provided.

A review of two educational fact sheets was also undertaken and re-distributed to all food businesses within the City of Charles Sturt to continue with the council's approach on education, encouragement and enforcement. The fact sheets provide comprehensive information relating to two of the most frequently identified areas of common non-compliance – protecting food from contamination and sanitising. The information presented is designed to provide clarity and assist with the interpretation of the relevant sections of the Food Safety Standards.

Coorong District Council

The Coorong District Council organises regular training sessions to promote good food hygiene principles to food handlers.

Food Handling and Safety Training Courses were organised by the council for the food businesses and community organisations located within the district. The courses were presented by a lecturer from TAFE SA. The use of an accredited training organisation provides the attendees with a recognised certificate of achievement that assists business owners in providing relevant professional development to their staff. This also improves the employability of the attendee should they change organisations.

The overwhelming number of community and business organisations encouraging their staff to attend the training courses supports the Coorong District Council's strategy of promoting Food Safety and Hygiene, highlighting the need for the continuing education of food handlers within our community.

Eastern Health Authority

The food handler training session 'Preventing Kitchen Nightmares – A Guide to Food Safety Fundamentals' continued into its second successful year. Environmental Health Officers (EHOs) conducted seven training sessions with 117 people attending. There was also a request from a food business for in-house training, which was attended by 20 staff.

On 12 November 2009, the Authority took part in Food Safety Week by arranging a display stand at Prospect's Northpark Shopping Centre. The aim was to remind people just how important food safety is in preventing the occurrence of life threatening food poisoning. EHOs provided advice and answered questions on food hygiene issues, and delivered a range of promotional materials and gifts that generated public interest and encouraged participation. There was a positive reaction from the community and information was well received.

Fairs and Special Events

The introduction of the temporary events booklet in 2008 has seen EHOs and Special Event Coordinators from constituent councils working together, resulting in an improvement in communication between event organisers and stall holders. The introduction of the booklet, strong support from the constituent councils and EHO attendance at stall holder meetings has prompted a significant rise in the number of 'temporary event notifications' and an improvement in food safety.

Flinders Ranges Council

Flinders Ranges Council identified a need for information sessions on food safe practice and health and hygiene awareness across the Flinders Shared Services Group (District Councils of Mount Remarkable, Orroroo Carrieton, Peterborough and The Flinders Ranges Council).

Students at the Hawker Area School learnt about health and hygiene, which involved discussions of personal hygiene and interactive hand washing activities during a day session and the following day saw five industry persons attend a one day food safe practice session at the Hawker Area School home economics room. Attendees were provided with information on best practice in safe food management and personal hygiene. The information sessions were well received by both students and food handlers.

City of Holdfast Bay

The Environmental Health Officers (EHOs) at the City of Holdfast Bay have used sampling as an educational tool for specific food practices to improve compliance with the Food Safety Standards and to ensure the production of safe food. An example is the promotion of effective hand washing and temperature control. EHOs targeted businesses selling potentially hazardous ready-to-eat foods that have been handled by gloved or bare hands and that store the food outside of temperature control. Officers took food samples and used the results to remind food handlers of the importance of good hand washing and the use of the two hour/four hour rule.

In addition to the planned projects, the City of Holdfast Bay's EHOs were filmed by a professional film crew for an upcoming television program aimed at showing regulatory officers in a positive light, similar to Channel 7's Border Security program. EHOs were followed by the film crew for three days, one of which captured their food sampling program. The Council agreed to the project because it believes that showing EHOs on national television will demonstrate the positive role regulatory staff has have on the community's health and safety.

Light Regional Council

Light Regional Council in conjunction with TAFE SA's Barossa Valley Campus ran a one-day accredited Food Safety Course at its Kapunda offices. The course was promoted in the local print media and was targeted at those food handlers who work in community and charitable organisations. The course was highly successful with more than 30 participants completing the course on the day and obtaining a recognised food safety and skills credential. The Council also undertook food promotion in the local media at Easter to promote hygiene tips for those entertaining family and friends over the Easter long weekend.

City of Marion

The City of Marion held an outdoor "Community Education Event" sausage sizzle at the O'Halloran Hill TAFE/Community Centre as part of Food Safety Week. This event enabled the City of Marion to work in partnership with a local educational facility and helped to educate a wide cross-section of the community through the diverse range of students at the local TAFE campus.

During the sausage sizzle Environmental Health Officers demonstrated safe food handling and storage in an outdoor environment and supplied educational information in the form of pamphlets and brochures.

Two Environmental Health Officers visited Seaview Downs Primary School and gave a demonstration on correct hand washing procedures to the staff and students. This was carried out because of a request from the school. The presentation was well received and the students enjoyed the hand washing activity using the Glitter Bug Potion.

District Council of Mount Barker

Free food safety information sessions were held for commercial businesses and volunteer food handlers. Conducting regular food safety training has proven to be beneficial in increasing the skills and knowledge of food handlers within the district. Presentations included information on the responsibilities of food handlers and businesses and showing the Bug Busters DVD.

The Council's joint project with a Flinders University third year student continued and was finalised at the end of 2009. The project aimed to determine the cleaning and sanitising practices of commercial food businesses in the area. Several improvements to cleaning and sanitising practices have resulted from the project and there is a greater awareness among food businesses of the requirements of cleaning and sanitising under the Food Safety Standards.

Mount Gambier City Council

The City of Mount Gambier's partnership with TAFE SA was a success, resulting in the provision of food safety training across the region. The Council's EHOs attend the training sessions to provide advice and to foster relationships with the proprietors and staff of food businesses.

The Council believes this is an important step towards positively encouraging compliance and breaking down the barriers between the EHOs and the proprietors/staff of food businesses. The successful partnership will continue into the new financial year, which will also see neighbouring Councils joining the partnership.

Rural City of Murray Bridge

The Rural City of Murray Bridge continues to be proactive with food safety education and facilitated two TAFE accredited food safety training courses for food handlers throughout 2009–2010. The three-hour accredited course introduces basic food science knowledge and covers the food safety responsibilities of food businesses and food handlers under the Food Safety Standards.

Participants undertake a short exam at the end of the session to receive their accreditation. The course continues to be very well attended with a total of 57 people completing the training during 2009–2010. Further sessions are planned for 2010–2011.

City of Onkaparinga

Food Sampling

The council carried out sampling on a monthly basis during the reporting period based on seasonal risks and general high-risk foods. Results are used as an educational and monitoring tool to provide indicators of compliance with the Food Safety Standards. A total of 21 food samples were analysed, of which eight reported unsatisfactory results. Further investigation, education and sampling was conducted at the food premises involved to improve food hygiene safety and handling.

Food Safety information sessions

There was a total of 27 food safety presentations conducted in the financial year (670 attendees in total). The information sessions were conducted for with school students, food businesses and community groups. These presentations were designed to introduce food legislation, safe food practices and personal hygiene. The presentation also included viewing of the *Bug Busters* DVD and a practical hand-wash activity. Students and food handlers were able to ask questions in order to increase their skills and knowledge in food safety.

District Council Orroroo and Carrieton

A water security and safety advice program continues to be implemented as part of routine food inspections. The program aims to give advice to those businesses that do not have access to safe, regulated water quality provisions such as SA Water services. It is anticipated that future changes in drinking water regulations will address some of these water security issues. Discussions regarding water security involve industries where realistic risk reduction measures may be implemented, such as food producers that rely on untreated rain/bore water collection services.

City of Playford

The City of Playford's Environmental Health Department decided to promote Food Safety Week by creating displays at the following locations: Elizabeth Library, Grenville Centre, John McVeity Centre and the Peachey Trailer (including the use of the Peachey Voice Radio Station to communicate the message). The displays included posters, brochures, food safety information and other useful resources. Bright colours and props (such as eskies, tongs, frying pans, utensils, cling wrap ice bricks etc) were used to attract members of the community to the displays.

Information on temperature control, hygienic practices and general food safety tips was published on the Intranet for all staff to see.

This financial year the Council has offered free-of-charge, online food safety training (known as *I'm alert*) to its food businesses via its website. Since offering the food safety training, the council has had 489 people successfully complete it. This is a positive step towards improving the skills of food businesses. As a result, food handlers have gained necessary skills and knowledge to handle food in a safe and hygienic manner.

City of Port Lincoln

A display was set up in the Port Lincoln public library during Food Safety Week. The display covered all aspects of food handling, from the initial purchase through to service. A refrigerator, shopping trolley and food models were some of the items on display.

A bi-monthly newsletter is distributed by email to registered food businesses in the Port Lincoln area and contains local issues, regulatory advice and newsworthy stories.

City of Salisbury

The City of Salisbury's Food Safety Rating Program aims to assist and encourage businesses to meet not only the minimum food safety standards, but to encourage the implementation of food safety management systems to ensure best practice food hygiene and safety.

High standards of food hygiene and safety in conjunction with ongoing compliance of the Food Safety Standards continue to be key objectives for regulators, businesses and consumers. A number of overseas authorities, including the Food Standards Agency in the United Kingdom, have developed an innovative approach to the food inspection process called Scores on Doors.

The City of Salisbury has undertaken a similar program that adapts the concepts of *Score on Doors*, which has been named, City of Salisbury Food Safety Rating Program – Recognising Excellence in Food Safety.

The Food Safety Rating Program aims to deliver on a number of key outcomes in food safety and hygiene for business proprietors, consumers and regulators. The benefits and incentives of the scheme are as follows:

- Provide recognition of and reward food businesses for a high level of compliance with the food safety standards.
- Encourage businesses to implement non-compulsory food safety management systems to promote self-regulation and best practice food safety and hygiene.
- Enable consumers to have a greater awareness of the commitment food businesses have to food hygiene and create consumer confidence.
- Ensure food businesses have better outcomes and a greater awareness in food safety and hygiene.

The program development involved consultation with a targeted pilot group of food businesses to assist and test the new inspection format scoring procedures and policies. The City of Salisbury identified 41 hotels, cafes and restaurants as the initial target group to trial the program and seek feedback. It is envisaged that following the pilot period, the program would be incorporated with all other high and medium risk businesses, including bakeries, takeaways, delis and supermarkets, which are the majority of food businesses in the City of Salisbury.

City of Tea Tree Gully

During September/October 2009 and February 2010 food handling training sessions were conducted for with 15 volunteers who work in the Community Services section of the Council. These volunteers are engaged in the provision and service of food through community programs and social activities.

In November 2009 the Council organised for an external, accredited trainer to provide basic food handling and hygiene training to 35 volunteers/staff from school canteens, Out of School Hours Care programs and Sporting Clubs. Attendees were issued with a certificate of competency at the completion of the course. The course actively engaged the participants and feedback from the attendees was very positive. An EHO was present at the training to answer any questions related to the regular routine inspections that are conducted across the Council's food businesses.

A presentation was also given to representatives from approximately 10 agencies that deal with immigrants from various countries. It provided information for new arrivals in order to assist them in understanding the particular food safety issues relevant to Australian conditions. Food preparation and the communal sharing of food is an important cultural aspect of many immigrants' lives and it was felt appropriate to provide an understanding of what is required under Australian standards to prevent possible incidents of food poisoning.

Appendix I

Food Safety Survey Report
Allergens

June 2010

Author: Tamira Thompson, Scientific Officer

A Survey to Determine the Presence of Allergens in Commonly Consumed Packaged Foods Labelled with “May Contain” Type Advisory Statements

Aims and Scope of the Investigation

The purpose of the survey was to determine the frequency of allergens being present in commonly consumed packaged foods containing “may contain” type advisory statements.

The survey also aimed to provide data to assist future assessment of:

- a) the effectiveness of internal allergen control protocols employed by businesses that use “may contain” type advisory statements
- b) the implications of using “may contain” type advisory statements for people suffering from allergic reactions to particular foods or ingredients.

Samples were analysed for the allergens relating to the statement and reviewed for compliance with general labelling requirements as set out in the Australia New Zealand Food Standards Code (the Code).

Background to the survey

Although food allergies only affect a small proportion of the population – the prevalence of food allergies in Australia is 1-2% of adults and 5-8% of children – they can potentially be life-threatening or even fatal.

Food allergens are typically naturally-occurring proteins in foods or derivatives of foods that cause abnormal immune responses. Food allergy symptoms can range from respiratory, gastrointestinal and/or skin problems, to anaphylactic shock. Anaphylactic shock results in the dramatic lowering of blood pressure, severe obstruction of the airways, a generalised shock reaction, and ultimately can result in death by multiple organ failure. Individuals susceptible to anaphylaxis need to carry a shot of adrenaline with them at all times in case they accidentally consume the ingredient they are allergic to.

The majority of food allergies can be attributed to seven foods: cow’s milk, eggs, fish, crustaceans, peanuts, soybeans and tree nuts (eg almonds, cashews, walnuts). The only way to manage these allergies is by complete avoidance of foods containing the allergen. The food industry plays a critical role in allergen control through formulation, cross-contamination and advice to consumers.

Many foods contain ingredients which are known allergens; however allergens may also be present due to unintentional cross-contamination. This can occur through contamination of raw material, insufficient cleaning and sanitation procedures, formulation errors or re-work. “May contain” type statements on food labels are frequently used to identify foods that may have been subject to cross-contamination with an allergenic substance.

For allergy sufferers, “may contain” statements are not helpful; they either consume the food and risk suffering an allergic reaction, or avoid a food which may be perfectly safe to consume. “May contain” statements should only be considered as the final option where contamination risk is sporadic, uncontrollable and potentially hazardous. It should never be used as a substitute for good manufacturing practice or to compensate for poor work practices.

Standards

Part 1.2 of the Code sets out the mandatory statements and declarations which must be made in relation to certain foods or foods containing certain substances. Clause 4 of Standard 1.2.3 of the Code states:

- (1) The presence in a food of any of the substances listed in the Table to this clause, must be declared in accordance with subclause (2), when present as:
 - (a) an ingredient; or
 - (b) an ingredient of a compound ingredient; or
 - (c) a food additive or component of a food additive; or
 - (d) a processing aid or component of a processing aid.
- (2) The presence of the substances listed in the Table to this clause must be:
 - (a) declared on the label on a package of food; or
 - (b) where the food is not required to bear a label pursuant to clause 2 of Standard 1.2.1:
 - i. declared on or in connection with the display of the food; or
 - ii. declared to the purchaser upon request; or
 - (c) displayed on or in connection with food dispensed from a vending machine.

Table to Clause 4

Cereals containing gluten and their products, namely, wheat, rye, barley, oats and spelt and their hybridised strains, other than where these substances are present in beer and spirits standardised in Standards 2.7.2 and 2.7.5 respectively

Crustacea and their products

Egg and egg products

Fish and fish products

Milk and milk products

Peanuts and soybeans, and their products

Added sulphites in concentrations of 10 mg/kg or more

Tree nuts and sesame seeds and their products other than coconut from the fruit of the palm *Cocos nucifera*

In addition, results will be assessed against the Voluntary Incidental Trace Allergen Labelling (VITAL) guidelines.

VITAL

VITAL is a risk-based methodology prepared by the Australian Food and Grocery Council (AFGC) for food producers to use in assessing the impact of allergen cross-contamination to indicate appropriate precautionary allergen labelling. Table 1 details the action levels described in VITAL, and Table 2 details the Lowest Observed Adverse Effect Levels (LOAELs) published for food allergens as summarised by the US Food and Drug Administration (FDA) Threshold Working Group.

Table 1. VITAL Allergen Actions Level Grid

	Allergen								
	Milk *	Egg *	Soy	Fish *	Pea-nuts	Tree nuts	Sesame seed	Crust-acea	Gluten*
Action Level 1 (ppm)	< 5	< 2	< 10	< 20	< 2	< 2	< 2	< 2	< 20
Action Level 2 (ppm)	5-50	2-20	10-100	20-200	2-20	2-20	2-20	2-20	20-100
Action Level 3 (ppm)	> 50	> 20	> 100	> 200	> 20	> 20	> 20	> 20	> 100

* mg/kg (ppm) of total protein

Action Level 1 – Precautionary labelling not required

Action Level 2 – Precautionary labelling is required for each relevant allergen using the standard VITAL statement

Action Level 3 – Significant levels of the allergen are likely to be sporadically present. Labelling of the allergen as an ingredient is required.

Table 2. LOAELs for Food Allergens

Food Allergen	LOAEL (mg protein)
Egg	0.13 – 1.0
Peanut	0.25 – 10
Milk	0.36 – 3.6
Tree nuts	0.02 – 7.5
Soy	88 – 522
Fish	1 – 100
Crustacea	0.25 – 10
Sesame	0.25 – 10
Gluten (coeliac sensitivity)	20 – 100

What foods were tested?

A total of 50 samples were tested, obtained from a variety of supermarkets across South Australia. Products included confectionery, cakes, sweet biscuits, cereals, savoury biscuits, potato chips, ice cream and desserts.

What did we test for?

All samples were sent to the National Measurement Institute (NMI) in Melbourne for analysis. Samples were analysed for the allergens relating to the “may contain” statement, which included egg, gluten, milk (casein), peanuts, seafood, sesame, soy, and almond. In addition, all samples were reviewed for general labelling compliance as required by Part 1.2 of the Code.

Results

Table to Clause 4

Product	Egg (mg/kg)	Gluten (mg/kg)	Hazelnut (mg/kg)	Milk (mg/kg)	Peanut (mg/kg)	Seafood (mg/kg)	Sesame (mg/kg)	Soy (mg/kg)	Almond (mg/kg)
Choc Bar 1			ND		ND				ND
Choc Bar 2			ND		ND				ND
Choc Bar 3			ND		ND				ND
Choc Bar 4			ND		ND				ND
Choc Bar 5			ND		ND				ND
Choc Bar 6			ND		ND				ND
Choc Bar 7			ND		ND				ND
Choc Bar 8			ND		ND				ND
Choc Bar 9			ND		ND				ND
Choc Bar 10			ND		ND				ND
Choc Bar 11			ND		ND				ND
Choc Bar 12			ND		ND				ND
Choc Bar 13			ND		ND				ND
Choc Bar 14	ND		ND						ND
Choc Bar 15			ND		ND				ND
Choc Biscuit 1			ND		ND		ND		ND
Biscuit 1			ND		ND		ND		ND
Choc Mud Cake 1			ND		ND				ND
Choc Mud Cake 2			ND		ND		ND		ND
Albert Cake			ND		ND				ND
Iced Donut	ND		ND		ND	ND	ND		ND
Choc Biscuit 2	ND		ND		ND		ND		ND
Choc Biscuit 3	ND		ND		ND		ND		ND
Biscuit 2			ND		ND		ND		ND
Choc Biscuit 4	ND			ND	ND		ND		
Savoury Biscuit 1	ND		ND	ND	ND		ND		ND
Savoury Biscuit 2	ND		ND		ND	ND	ND		ND
Cereal 1			ND		ND				ND
Cereal 2			ND		ND				ND
Cereal 3			ND		ND				ND
Potato Chips 1		ND		ND				ND	
Potato Chips 2		ND							
Potato Chips 3				ND					
Rice Cake		ND		ND			ND	ND	

Product	Egg (mg/kg)	Gluten (mg/kg)	Hazelnut (mg/kg)	Milk (mg/kg)	Peanut (mg/kg)	Seafood (mg/kg)	Sesame (mg/kg)	Soy (mg/kg)	Almond (mg/kg)
Rice Cracker 1	ND		ND		ND	ND	ND		ND
Ice Cream (stick)			ND		ND				ND
Choc Bavarian			ND		ND				ND
Ice Cream Cake			ND		ND				ND
Ice Cream – Choc			ND		ND				ND
Ice Cream – Van.			ND		ND				ND
Choc Pudding	ND		ND						ND
Custard Powder	ND		ND		ND			ND	ND
Choc Conf.					ND				ND
Choc Topping		ND	ND		ND		ND	ND	ND
Lollies				ND					
Corkscrew Pasta	ND			ND					
Rice Cracker 2	ND		ND		ND	ND	ND	ND	ND
Dark Choc		ND	ND		1.6ppm				ND
Fettuccine	ND							ND	
Milk Choc			ND		ND				ND

Table 4. Types of allergen warning statements identified during survey

Made on the same equipment that processes products containing...

May be present...

May contain traces of...

Processed in a facility that also processes products containing...

Manufactured on equipment that also processes...

Made on a production line that also produces products containing...

Made on machinery that also makes products which contain...

Traces of...

Discussion

Of the 50 different samples analysed, 49 samples returned undetected levels of the allergen(s) detailed in the labels "may contain" statement. One dark chocolate sample detected 1.6ppm peanut protein; in accordance with the Vital Allergens Action Level Grid, this result would require action at level 1 – precautionary labelling not required. As such, all products analysed were compliant with Standard 1.2.3 of the Code.

A total of 173 different allergen warning statements were identified on the 50 products sampled – an average of 3.5 allergen warnings per product. For allergy sufferers, "may contain" statements are not helpful and should only be considered by industry as the final option where contamination risk is sporadic, uncontrollable and potentially hazardous.

General Labelling Requirements

There was a 100% level of compliance with the general labelling requirements set out in part 1.2 of the Code in all products sampled.

Conclusion

The survey indicated that all samples of 50 commonly consumed packaged foods containing "may contain" type advisory statements were compliant with Standard 1.2.3 of the Code.

In consideration of risk and consequence, manufacturers can not be reasonably expected to know the sensitivity threshold of all allergen sufferers and appear to err very much on the side of caution. It was concluded however that food businesses concerned appear to have effective internal allergen control protocols.

While the low frequency of positive results when "may contain statements" are present appears to restrict the choice for allergen sufferers, the potential for severe consequences from exposure to allergens warrants further investigation of the implications of this finding before any definitive conclusion can be reached.

The resulting impact of the application of "may contain" type advisory statements appears to restrict the choice of allergen sufferers. Data gathered is intended to be used for reference in relation to future review of allergen labelling.

Appendix II

Food Safety Survey Report
Microbiological Quality of Cooked Chickens
Author: Tamira Thompson, Scientific Officer

June 2010

A Survey to Measure the Microbiological Safety of Cooked Chickens available for Retail Sale

Aims and Scope of the Investigation

The purpose of this survey was to determine the microbiological quality of cooked chickens available for retail sale in South Australia. Products sampled included whole cooked chicken, quarter, half, and portioned cooked chicken purchased from supermarkets, chicken shops and take-away stores. Samples were analysed for *Campylobacter* spp. and *Salmonella* spp. and reviewed for compliance with the FSANZ Guidelines for the microbiological examination of ready-to-eat foods.

Background to the Survey

Ready-to-eat food is food that is ordinarily consumed in the same state as that in which it is sold or distributed, and does not undergo any further processing to eliminate the presence of pathogens. Therefore, ready-to-eat food products, such as cooked chicken, need to be free of dangerous pathogens like *Campylobacter* and *Salmonella* to avoid food poisoning. The presence of these pathogens indicates poor food preparation and handling practices (particularly cross-contamination) or inadequate cooking.

Standards/Guidelines

The *Food Act 2001* requires food businesses not to sell food that is unsafe or unsuitable for human consumption. While no specific product standards are referenced in the Food Standards Code, the FSANZ guidelines for the microbiological examination of ready-to-eat foods sets out the following microbiological guidelines:

TEST	MICROBIOLOGICAL QUALITY (CFU per gram)	
	Satisfactory	Potentially Hazardous
<i>Campylobacter</i> spp	Not Detected in 25 grams	Detected
<i>Salmonella</i> spp	Not Detected in 25 grams	Detected

Satisfactory – results indicate good microbiological quality

Potentially Hazardous – the levels in this range may cause food borne illness and immediate remedial action should be initiated

What foods were tested?

A total of 50 samples were tested, obtained from a variety of take-away shops and supermarkets in South Australia. Products included whole cooked chicken, half cooked chicken, quarter cooked chicken and “cut-up” cooked chicken.

What did we test for?

All samples were sent to the IMVS in Adelaide for analysis. Samples were analysed for *Campylobacter* spp. and *Salmonella* spp.

Product Type	Microbiological Results	
	<i>Salmonella</i> /25g	<i>Campylobacter</i> /25g
Cooked Chicken - half	Not Detected	Not Detected
Cooked Chicken - half	Not Detected	Not Detected
Cooked Chicken - half	Not Detected	Not Detected
Cooked Chicken - half	Not Detected	Not Detected
Cooked Chicken - half	Not Detected	Not Detected
Cooked Chicken - half	Not Detected	Not Detected
Cooked Chicken - half	Not Detected	Not Detected
Cooked Chicken - half	Not Detected	Not Detected
Cooked Chicken - quarter	Not Detected	Not Detected
Cooked Chicken - whole (cut up)	Not Detected	Not Detected
Cooked Chicken - whole (cut up)	Not Detected	Not Detected
Cooked Chicken - whole (cut up)	Not Detected	Not Detected
Cooked Chicken - whole (cut up)	Not Detected	Not Detected
Cooked Chicken - whole (cut up)	Not Detected	Not Detected

Discussion of Results

The survey results indicated a high level of microbiological quality, with 100% of samples analysed producing negative results for presence of *Campylobacter* spp and *Salmonella* spp. These results indicated a satisfactory microbiological quality when compared with the FSANZ guidelines for the microbiological examination of ready-to-eat foods.

Conclusion

Fifty cooked chicken products were analysed for the presence of *Campylobacter* spp *Salmonella* spp. The results indicated a high level of microbiological quality with no detection of target organisms in any sample.

Appendix III

Food Safety Survey Report
Microbiological Quality of Infant Formula

June 2010

Author: Tamira Thompson, Scientific Officer

A Survey to Measure the Microbiological Safety of Powdered Infant Formula available for Retail Sale

Aims and Scope of the Investigation

The purpose of this survey was to measure the microbiological quality of powdered infant formula available for retail sale. Samples were analysed for *Bacillus cereus*, Coagulase-positive *Staphylococci*, Coliforms, *Salmonella*, and Standard Plate Count (SPC) and reviewed for compliance with microbiological limits. Samples were also reviewed for general labelling requirements as set out in the Australia New Zealand Food Standards Code (the Code).

Background to the survey

Although breast milk is the best option for feeding babies, infant formulas are a suitable alternative for those who choose not to or cannot breast feed their child. As infants have poorly developed immune systems, it is essential that these infant formulas are of the highest microbiological quality to ensure safety.

Standards

Standard 1.6.1 of the Code (Microbiological Limits for Food), sets out the microbiological limits for powdered infant formula products:

Food	Micro-organism	n	c	m	M
Powdered infant formula products	<i>Bacillus cereus</i> /g	5	0	100	
	Coagulase-positive <i>Staphylococci</i> /g	5	1	0	10
Powdered infant formula products with added lactic acid producing cultures	Coliforms/g	5	2	<3	10
	<i>Salmonella</i> /25g	10	0	0	0
	SPC/g	5	2	10 ³	10 ⁴

n means the minimum number of sample units which must be examined from a lot of food.

c means the maximum allowable number of defective sample units.

m means the acceptable microbiological level in a sample unit.

M means the level when exceeded in one or more samples would cause the lot to be rejected.

What foods were tested?

A total of twenty samples were tested, obtained from a variety of supermarkets, department stores and pharmacies in South Australia. Products included newborn (up to six months) and progress (six to twelve months) formulas, soy and goat milk based formulas, and formulas specifically designed for pre-term, lactose intolerant babies at risk of allergy and babies with reflux.

What did we test for?

All samples were sent to the IMVS in Adelaide for analysis. Samples were analysed for *Bacillus cereus*, Coagulase-positive *Staphylococci*, Coliforms, *Salmonella*, and Standard Plate Count (SPC). In addition, all samples were reviewed for general labelling compliance as required by Part 1.2 of the Code.

Results

Product Type	<i>B. cereus</i> Per gram	<i>Staph</i> Per gram	Coliforms Per gram	<i>Salmonella</i> Per gram	SPC Per gram
Step 1 from birth	< 100	< 10	< 3	ND	400
Starter 1	< 100	< 10	< 3	ND	10
Starter infant formula	< 100	< 10	< 3	ND	10
Suitable from birth	< 100	< 10	< 3	ND	20
From 6 months	< 100	< 10	< 3	ND	100
Suitable from birth	< 100	< 10	< 3	ND	10
Infant formula Stage 1	< 100	< 10	< 3	ND	< 10
For infants from birth	< 100	< 10	< 3	ND	< 10
From Birth	< 100	< 10	< 3	ND	50
For babies at risk of allergy	< 100	< 10	< 3	ND	10
Goat – from birth	< 100	< 10	< 3	ND	10
Soy – all ages from birth	< 100	< 10	< 3	ND	10
Infant formula from birth	< 100	< 10	< 3	ND	< 10
Newborn	< 100	< 10	< 3	ND	< 100
Progress	< 100	< 10	< 3	ND	80
Newborn	< 100	< 10	< 3	ND	10
Progress	< 100	< 10	< 3	ND	20
Pre-term formula up to 12 months	< 100	< 10	< 3	ND	< 10
For babies with reflux	< 100	< 10	< 3	ND	< 100
For lactose intolerant babies	< 100	< 10	< 3	ND	10

Discussion of Results

The survey results indicated an exceptional level of compliance with Standard 1.6.1 of the Code. 100% of samples analysed returned microbiological results within the allowable level for powdered infant formulas.

The survey indicated a moderate level of compliance with general labelling requirements as set out in Part 1.2 of the Code, with 70% of samples fully complying with requirements.

The remaining 30% of samples were non-compliant with Standard 1.2.11 Country of Origin requirements of the Code.

Follow up Activities

A letter was sent to the NSW Food Authority, advising them of six labelling non-compliances in relation to failure to identify the country of origin as required by Standard 1.2.11 of the Code. The matter is currently under investigation.

Conclusion

Twenty powdered infant formulas were analysed for *Bacillus cereus*, Coagulase-positive *Staphylococci*, Coliforms, *Salmonella*, and Standard Plate Count (SPC) and reviewed for general labelling compliance. The survey indicated an exceptional level of compliance with microbiological limits, and a moderate level of compliance with general labelling requirements as set out in the Code.

Appendix IV

Food Safety Survey Report
Microbiological Quality of Raw Vegetables

June 2010

Author: Tamira Thompson, Scientific Officer

A Survey to Measure the Microbiological Safety of Raw Vegetables available for Retail Sale

Aims and Scope of the Investigation

The purpose of this survey was to identify the prevalence of pathogens in commonly consumed vegetables, which may be eaten raw or partially cooked, and are available for retail sale in South Australia. Samples were analysed for *E. coli*, *E. coli* O157, *Salmonella* spp. and *Listeria monocytogenes*. The survey is part of a five-year sampling plan and SA Health will continue to sample and analyse the microbiological quality of raw vegetables periodically. From this information trend analysis can be derived and utilised in the future.

Background to the survey

In recent food borne disease outbreaks, epidemiological evidence has suggested that vegetables may possibly have been the source of infection. SA Health continuously monitors, through a five-year sampling plan, a variety of fruit and vegetables in South Australia for compliance with microbiological requirements of the Standard 1.6.1 of the Code. This is of the five-year sampling plan.

Vegetables normally carry non-pathogenic microflora, however they can be contaminated with pathogenic bacteria during growth, harvest, transportation and processing through contamination with organic fertilisers, polluted irrigation water or poor hygiene.

Standards

The *Food Act 2001* requires food businesses not to sell food that is unsafe or unsuitable for human consumption. While no specific product standards are referenced in the Food Standards Code, it does require that food be safe for human consumption.

What foods were tested?

A total of 60 samples were collected, taken periodically over the financial year, capturing a variety of raw vegetables available for retail sale in South Australia. Products included carrot, broccoli, capsicum, cauliflower, cabbage, lettuce, cucumber, snow peas, tomatoes, celery, parsley, baby spinach, bok choy, bean shoots, alfalfa and spring onions.

What did we test for?

All samples were sent to the IMVS Food and Environmental Laboratory in Adelaide for analysis. Samples were analysed for *Escherichia coli* (*E. coli*), *E. coli* O157, *Salmonella* and *Listeria monocytogenes*.

Results

Vegetable Type	Samples Taken	<i>Salmonella</i>	<i>Listeria monocytogenes</i>	<i>Escherichia coli</i>	<i>Escherichia coli</i>	Other
Carrot	8	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Broccoli	6	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	<i>Listeria welshimeri</i> detected
Capsicum – Green, Red & Yellow	6	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Cauliflower	4	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Cabbage	4	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
	4	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Cucumber – Lebanese	4	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Lettuce – Hydroponic	3	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Cucumber – Continental	3	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Tomatoes	3	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Celery	3	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Lettuce – Iceberg	2	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Lettuce – Cos	1	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Lettuce – Fancy	1	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Cucumber – Green	1	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Parsley	1	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Baby Spinach	1	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Bok Choy	1	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Bean Shoots	1	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Alfalfa	1	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	
Spring Onions	1	*ND / 25g	*ND / 25g	**<3 cfu/g	*ND / 25g	

* ND – Not Detected

**Confidence interval for *E. coli* – MPN <3 cfu/g

Follow up Activities

SA Health will continue to sample and analyse the microbiological quality of fresh produce periodically. A periodical curve will be developed as data is collected and this data can be used to determine seasonal differences in microbiological quality, as well as allow preventative action to be taken if required.

Discussion of results

The survey results indicated a high level of microbiological quality, in respect to the presence of pathogens, with 100% of samples analysed producing negative results for *Salmonella*, *E. coli*, *E. coli 0157* and *L. monocytogenes* presence.

One sample of broccoli contained *Listeria welshimeri* – this strain of *Listeria* is considered to be non pathogenic and therefore no risk to public health.

Conclusion

Sixty raw vegetable products were analysed for the presence of *E. coli*, *E. coli 0157*, *Salmonella* and *L. monocytogenes*. The results indicated a high level of microbiological quality with no detection of target organisms in any sample.

Appendix V

Food Safety Survey Report
Microbiological Quality of Bottled Water

June 2010

Author: Ellie Parsa, Scientific Officer

A Survey to Measure the Microbiological Safety of Packaged Water available for Retail Sale

Aims and Scope of the Investigation

The purpose of this survey was to measure the microbiological quality of bottled water available for retail sale. Samples were analysed for *Escherichia coli* (*E. coli*) spp., *Pseudomonas* spp., yeasts and moulds, and reviewed for compliance with microbiological limits. Samples were also reviewed for general labelling requirements as set out in the Australia New Zealand Food Standards Code (the Code). This is a snapshot survey.

Background to the survey

Safe drinking water is a fundamental requirement for maintaining public health and supporting healthy communities. All bottled water sold in Australia and New Zealand, regardless of whether it is a domestic or imported brand, must adhere to safety, quality, production and labelling standards required by the Code. In addition, bottled water sold through international commerce is subject to the standards of Codex Alimentarius, the food standards body of the World Health Organization.

Standard 1.6.1 of the Code specifies a maximum contaminant level, which is the highest concentration of a particular contaminant allowed in bottled water. Maximum contaminant levels are set at levels low enough to prevent health problems. While no specific limits are set for *Pseudomonas* spp. and mould in the Code, their presence in water are possible health concerns. These organisms are harmless in healthy people but are pathogenic in compromised people (for example, malnourished, diabetic, or immunosuppressed patients).

Standards

Standard 1.6.1 of the code sets the maximum permissible levels of micro-organisms that pose a risk to human health in packaged and mineral water. This standard states that *E. coli* must not be detected in 100 ml of water.

The *Food Act 2001* requires food businesses not to sell food that is unsafe or unsuitable for human consumption. While no specific limits are set for *Pseudomonas* spp., yeast or mould in Standard 1.6.1 of the Code, it does require that food be safe for human consumption.

What foods were tested?

A total of 20 samples were tested, capturing a variety of brands for retail sale in South Australia.

What did we test for?

All samples were sent to the IMVS Food and Environmental Laboratory in Adelaide for analysis. Samples were analysed for *Escherichia coli* spp., *Pseudomonas* spp., yeasts and moulds.

Results

Table 1. Microbiological quality of bottled water

Sample No.	<i>Escherichia coli</i>	<i>Pseudomonas spp.</i>	Yeasts	Moulds
30451	not detected	not detected	not detected	not detected
30452	not detected	not detected	not detected	not detected
30453	not detected	not detected	not detected	not detected
30456	not detected	not detected	3/100 ml	not detected
30457	not detected	not detected	not detected	not detected
30459	not detected	not detected	not detected	not detected
30460	not detected	not detected	not detected	not detected
30461	not detected	not detected	not detected	not detected
30462	not detected	not detected	not detected	not detected
30463	not detected	30,000/100ml	not detected	not detected
30464	not detected	not detected	not detected	not detected
30465	not detected	not detected	not detected	not detected
30466	not detected	not detected	Indeterminable due to mould overgrowth	Indeterminable due to mould overgrowth
30467	not detected	not detected	not detected	not detected
30468	not detected	not detected	3/100 ml	not detected
30469	not detected	not detected	not detected	not detected
30470	not detected	not detected	not detected	not detected
30471	not detected	not detected	not detected	not detected
30472	not detected	not detected	not detected	not detected
30473	not detected	not detected	not detected	not detected

* Confidence interval for *E. coli* – MPN <1 cfu/g

A letter was sent to the importer of bottled water sample number 30463, advising of the observed high level of *Pseudomonas* spp. Further samples of bottled water were collected to assess the level of *Pseudomonas aeruginosa*. The presence of *Pseudomonas aeruginosa* indicates serious contamination by pollution as and is associated with surface run-off, human faecal matter and domestic and agriculture effluent. *Pseudomonas aeruginosa* was not detected in any of those samples indicating that the products are free of pathogenic micro-organisms and safe for consumption.

It is proposed that SA Health will continue to sample and analyse the microbiological quality of bottled water periodically. From this information trend analysis can be derived and utilised in the future

Discussion of Results

Twenty samples were obtained from nine different stores in South Australia. All samples analysed tested negative or were below the detectable level for *E. coli* spp. These results indicate a high level of microbiological quality; in particular that *E. coli* spp. was not detected in any sample. *E. coli* spp. is an indicator organism and if it was present in bottled water it would suggest that packaging, distribution or processing occurred under poor hygienic conditions. *Pseudomonas* spp. was detected in one sample of bottled water in levels of 30,000/100 ml.

General Labelling Requirements

There was a 100% level of compliance with the general labelling requirements set out in Part 1.2 of the Code in all products sampled.

Conclusion

Twenty bottled water samples were analysed for the presence of *E. coli*, *Pseudomonas species*, mould and yeast. The results indicated a high level of microbiological quality with no detection of *E. coli* in any sample.

Appendix VI

Food Safety Survey Report
Histamine in Fish

June 2010

Author: Garry Clarke, Senior Project Officer

This survey was a “Snapshot” Survey to Measure the Level of Histamine in a wide variety of Fish Species Available in Retail and Specialized Fish Outlets.

Aims and Scope of the Investigation

The purpose of the survey was to measure the levels of histamine in whole and fillets of fish sold in large and small retail outlets in South Australia. Compliance with the labelling standards of the Australia New Zealand Food Standards Code (the Code) were also checked when fish samples were purchased packaged.

Background to the Survey

Histamine fish poisoning is caused by elevated levels of histamine being present in the fish. Naturally occurring bacteria in fish produce an enzyme which converts histidine in the fish to histamine. This directly relates to the improper preservation and inadequate refrigeration of the fish. If appropriate temperature control practices are followed the production of histamines will be limited. Histamine poisoning is more prevalent in certain species of fish such as tuna, sardines, mackerel, swordfish and marlin but may also occur in other types of fish. Even though certain types of fish can accumulate higher levels of histamine than others, it is widely recognised that there are considerable nutritional benefits to be derived from the regular consumption of fish.

Once histamine is present in fish it is not destroyed by freezing, cooking, smoking or canning. Histamine in fish can cause allergic reactions in some people, such as skin reactions, nausea, vomiting and diarrhoea. Most symptoms will disappear in less than 24 hours and cause no specific long-term medical problems.

Standards

Standard 2.2.3 of the Code, Fish and Fish Products sets a maximum level of 200 mg/kg of histamine in Fish or Fish Products.

All packaged products were checked against Part 1.2 of the Code for general labelling compliance, which contains the following standards:

- Standard 1.2.1 Application of Labelling and Other Information Requirements
- Standard 1.2.3 Food Identification Requirements
- Standard 1.2.4 Mandatory Warning and Advisory Statements and Declarations
- Standard 1.2.4 Labelling of Ingredients
- Standard 1.2.5 Date Marking of Packaged Food
- Standard 1.2.6 Directions for Use and Storage
- Standard 1.2.7 Reserved (Representations about Food)
- Standard 1.2.8 Nutrition Information Requirements
- Standard 1.2.9 Legibility Requirements
- Standard 1.2.10 Characterising Ingredients and Components of Food
- Standard 1.2.11 Country of Origin Requirements

What foods were tested?

In total 51 samples comprising of 42 different species of fish were collected and tested. These samples were collected from a variety of fish premises and retail outlets in metropolitan Adelaide. All samples were sent to the National Measurement Institute in Melbourne for analysis and reporting.

What did we test for?

Fish samples were only tested for the level of histamine in the product to check compliance with Standard 2.2.3 of the Food Standards Code.

Results

Number	Type of Fish	Histamine Result mg/kg	Pass/Fail
1	Ling	<10	Pass
2	Red Snapper	<10	Pass
3	Snapper cutlets	<10	Pass
4	Tommy Ruff	<10	Pass
5	Fish Chunk	<10	Pass
6	Milk Fish	<10	Pass
7	Basa	<10	Pass
8	Hake	<10	Pass
9	Ocean Trout	<15	Pass
10	Tuna	<10	Pass
11	Blue Whiting	<10	Pass
12	Barramundi	<10	Pass
13	Dory	<10	Pass
14	Hoki	<10	Pass
15	Deep Sea Bream	<10	Pass
16	Flat Head	<10	Pass
17	Mullet	<10	Pass
18	King Fish	<10	Pass
19	Gemfish	<10	Pass
20	Blue Eye Trevalla	<105	Pass
21	Australian Whiting	<10	Pass
22	Tasmanian Salmon	<10	Pass
23	Scottish Kippers	<10	Pass
24	Barramundi	<10	Pass
25	Hoki	<10	Pass
26	Butterfish	<10	Pass
27	Baccala	<10	Pass
28	Nile Perch	<10	Pass
29	Nanagi	<10	Pass
30	Groper	<10	Pass
31	Gummy Shark	<10	Pass
32	Boar Fish	<10	Pass
33	Snook	<10	Pass
34	Blue Whaler	<10	Pass
35	Sword Fish	<10	Pass
36	Skate	<10	Pass
37	Samson	<10	Pass

Number	Type of Fish	Histamine Result mg/kg	Pass/Fail
38	Kingfish (whole)	<10	Pass
39	Boarfish	<15	Pass
40	Mulloway	<10	Pass
41	Snapper cutlets	<10	Pass
42	Garfish	<10	Pass
43	Silver Whiting	<10	Pass
44	Flathead	<10	Pass
45	Rainbow Trout	<10	Pass
46	Tuna	<10	Pass
47	Pink Snapper	<10	Pass
48	Kingfish (fillets)	<10	Pass
49	King George Whit	<10	Pass
50	Blue Snapper	<10	Pass
51	Blue Grenadier	<10	Pass

Discussion of Results

The survey results indicated a high level of compliance with Standard 2.2.3 of the Code – 100% of samples analysed returned chemical results within the allowable level for histamine in fish.

Of the 51 samples collected for analysis, only three tested positive to the presence of histamine. Two of the results were just above detectable levels while the other sample tested 105 mg/kg which is well within the limits set down in Standard 2.2.3

All packaged fish were fully compliant with the labelling requirements of Part 1.2 of the Code.

Follow up Activities

No follow up action was required as because no samples tested above the minimum level of 200 mg/kg of histamine. As all samples purchased packaged were also compliant with the labelling requirements set out in the Code, so no follow up action was required.

Conclusion

Forty-eight (94%) of the samples tested had results below the minimum level of detection for histamines. Three (6%) of the samples had histamine ranging between 15 mg/kg to 105 mg/kg but were well within the acceptable levels set down in the Code.

As a routine part of any survey which involves packaged goods, all labelling is checked for compliance with the Code. In this instance all packaged fish complied with the requirements of the Code.

Appendix VII

Food Safety Survey Report
Microbiological Quality of Raw Chicken Meat

June 2010

Author: Ellie Parsa, Scientific Officer

A Survey to Measure the Microbiological Safety of Raw Chicken Meat Available for Retail Sale

Aims and Scope of the Investigation

The purpose of this survey was to determine the microbiological quality of raw chicken meat available for retail sale in South Australia. Products sampled included chicken breast fillet, chicken thigh fillet, chicken maryland, chicken wings, chicken drumsticks, mixed chicken portion and chicken chops purchased from supermarkets, butchers, gourmet shops, continental stores and delicatessens. Samples were analysed for *Campylobacter* spp. and *Salmonella* spp. and reviewed for compliance with the labelling requirements of the Australia New Zealand Food Standards Code (the Code).

The survey is currently in its first year of a five-year sampling plan and SA Health will continue to sample and analyse the microbiological quality of raw chicken periodically. From this information it can be determined whether the development and implementation of the Primary Production and Processing Standard for Poultry Meat is effective in reducing the prevalence of salmonella and campylobacter and ultimately reducing the likelihood of illness to consumers.

Background to the survey

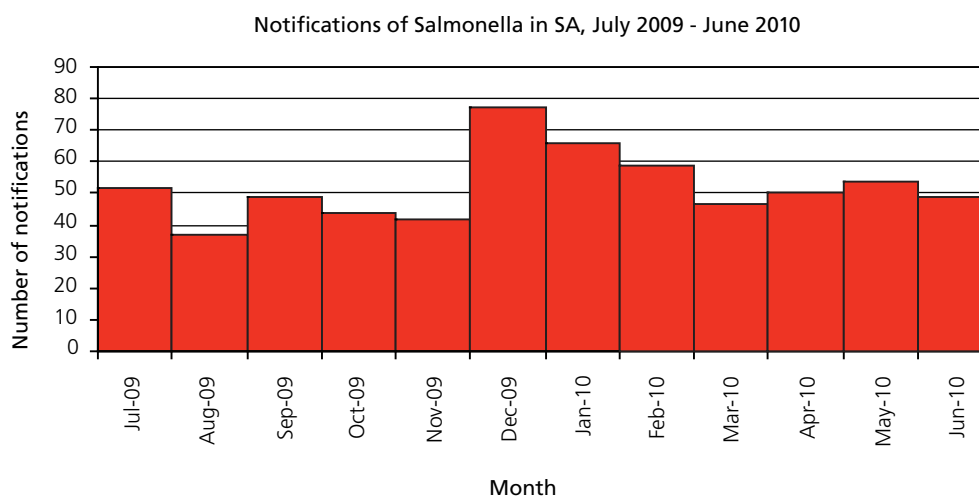
Chicken meat is a commonly consumed food in Australia, with 80% of people consuming chicken meat within any seven-day period. Similarly, chicken meat is one of the most commonly identified causes of food borne illness by SA Health.

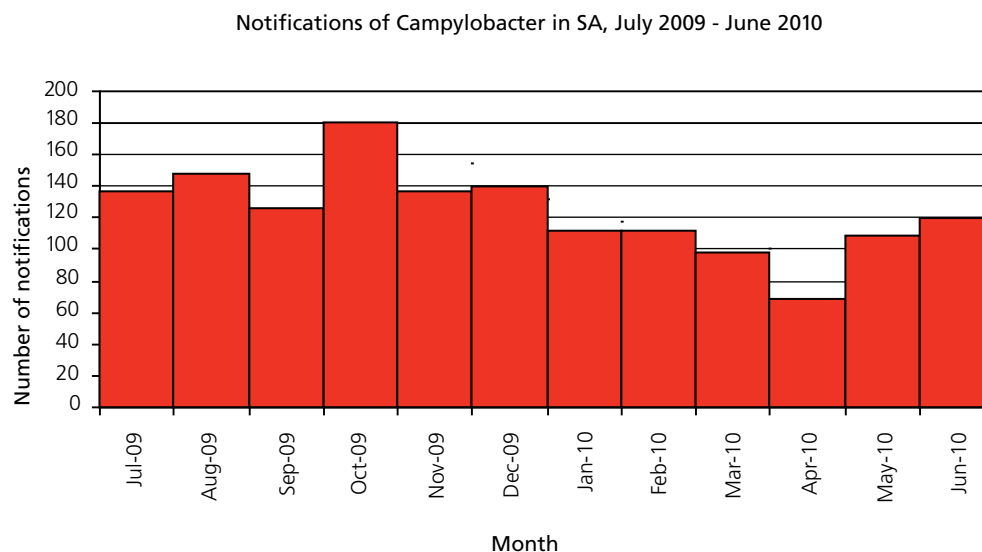
For the period of 1 July 2009 to 30 June 2010 there were a total of 1496 cases of *Campylobacter* infection and 626 cases of *Salmonella* spp. infection reported to SA Health.

Of the total 2251 cases of food borne illnesses reported to SA Health for the period of 1 July 2009 to 30 June 2010, 66.5% were due to *Campylobacter* and 27.8% were due to *Salmonella* spp.

While other meats and much less commonly other foods carry these bacteria less commonly, raw chicken is the main source. Cooking will kill the bacteria but undercooking and more importantly, cross-contamination from raw chicken or its drip to ready-to-eat foods, can result in illness.

Results obtained during this survey may provide a benchmark for determining risk in the future. The following charts highlight the number of human *Salmonella* spp. and *Campylobacter* cases (from all potential sources) in South Australia (July 2009 to June 2010).





Standards

The *Food Act 2001* requires food businesses not to sell food that is unsafe or unsuitable for human consumption.

Standard 4.2.2 of the Code sets out a number of food safety requirements for the primary production and processing of poultry, poultry carcasses and poultry meat for human consumption. At the primary production stage, businesses that produce poultry must implement measures to control the food safety hazards and must be able to trace their products. Businesses that process poultry must control their food safety hazards and must be able to trace their products. This standard is intended to reduce the contamination of poultry, poultry carcasses and poultry meat by pathogenic *Campylobacter* and *Salmonella* spp.

What foods were tested?

A total of 80 samples were tested, obtained periodically over the financial year from a variety of meat services and supermarkets in South Australia. Products included chicken breast fillet, chicken thigh fillet, chicken maryland, chicken wings, chicken drumsticks, mixed chicken portions and chicken chops.

What did we test for?

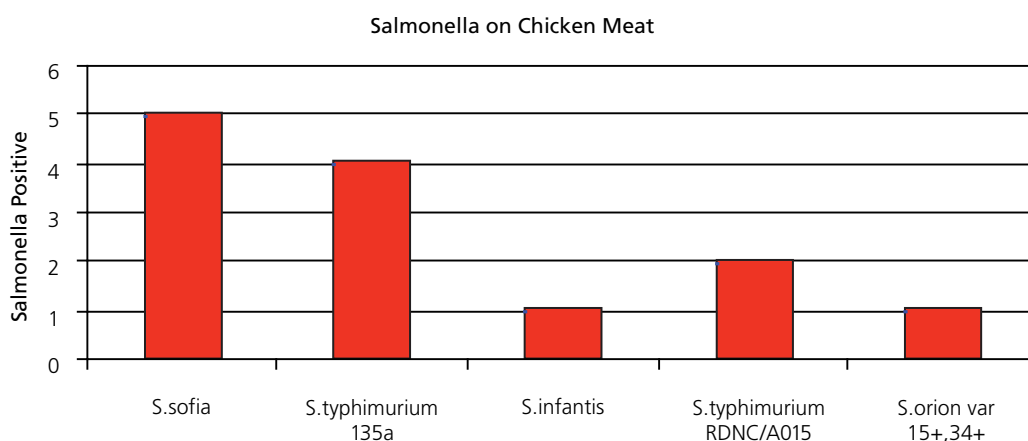
All samples were sent to the IMVS in Adelaide for analysis. Samples were analysed for *Campylobacter* spp. and *Salmonella* spp.

Results

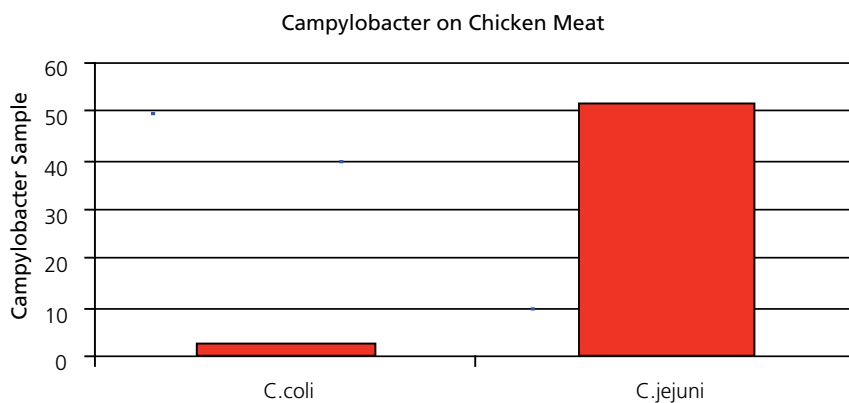
Table 1. Microbiological quality of raw chicken meat

Samonella	Skin-on chicken meat	Skin-off	Total samples
Not detected	42	25	67
S.sofia	5	0	5
S.typhimurium-135a	3	1	4
S.infantis	0	1	1
S.typhimurium-RDNC/A015	2	0	2
S.orion var 15+, 34+	1	0	1
Total	53	27	80

Campylobacter	Skin-on chicken meat	Skin-off	Total samples
Not detected	14	11	25
C.coli	2	1	3
C.jejuni	35	17	52
Total	51	29	80



Salmonella spp. was detected on 20.8 % of samples of skin on chicken meat and on 7.4 % of skin off poultry meat, giving a combined total detection of *Salmonella* spp. on 16.25% of poultry meat samples.



Campylobacter was detected on 72.5% of samples of skin on chicken meat and on 62.1% of skin off poultry meat, giving a combined total detection of *Campylobacter* on 68.75% of poultry meat samples.

Discussion of Results

Eighty raw chicken products were analysed for the presence of *Campylobacter* spp and *Salmonella* spp. The survey results indicated a moderate level of microbiological quality, with 16.25% of samples analysed producing positive results for presence of *Salmonella* spp and 68.75% of samples producing positive results for *Campylobacter* spp. *Campylobacter* was present in reasonably high numbers and *Salmonella* spp. in low numbers. The survey results for *Salmonella* and *Campylobacter* in chicken meat varied greatly between skin on and skinless style products. This indicates that there has been a significant improvement in handling, hygiene and cross-contamination awareness along the supply chain.

The most recent and relevant survey A Survey of retail chicken meat for *Salmonella* spp. and *Campylobacter* spp. in SA (2007 to 2008), showed that *Salmonella* spp. was found in 37.8% of retail chicken samples and *Campylobacter* was found in 90.1% of samples. The comparison of the survey results suggest that significant work has been undertaken by industry to reduce pathogens during poultry slaughtering operations. The efforts appear to have resulted in a reduction in the incidence of pathogen detection at retail level.

The results also provided a useful reference source for likely foods implicated in food borne illness reported to SA Health, but did not always provide conclusive proof of infection sources.

This finding demonstrates the need for government agencies to continue sending safe food messages to consumers in relation to the safe handling and cooking of raw chicken meat.

Follow up Activities

SA Health will continue to sample and analyse the microbiological quality of raw chicken periodically. A periodical curve will be developed as data is collected and this data can be used to determine seasonal differences in microbiological quality, as well as allow preventative action to be taken.

Conclusion

A total of 80 samples were tested for *Campylobacter* and *Salmonella* spp., and reviewed for general labelling compliance. The results showed that 68.75% of the samples were positive for *Campylobacter* and 16.25% for *Salmonella* spp. The findings highlight the importance of handling and cooking poultry meat correctly in preventing food borne illnesses.

This survey indicated a high level of compliance with general labelling requirements as set out in the Code.

Appendix VIII

Food Safety Survey Report
Microbiological Quality of Raw Eggs

June 2010

Author: Ellie Parsa, Scientific Officer

A Survey to Measure the Microbiological Safety of Raw Eggs Available for Retail Sale

Aims and Scope of the Investigation

The purpose of this survey was to identify the prevalence of salmonella in eggs available for retail sale in South Australia. Products sampled included free range eggs, cage eggs and barn-laid eggs purchased from supermarkets, butchers, health food shops and fruit and vegetable retailers. Samples were analysed for *Salmonella* spp. The survey is currently in its first year of a five-year sampling plan and SA Health will continue to sample and analyse the microbiological quality of eggs periodically. From this information a trend analysis can be utilised to assess if the implementation of the national Primary Production and Processing Standard for Eggs and Egg Products currently under development has had a positive impact on the prevalence of *Salmonella* spp. in eggs available for sale in South Australia.

The survey also checked compliance against labelling requirements set out in Part 1.2 of the Australia New Zealand Food Standard Code at the point of sale (the Code).

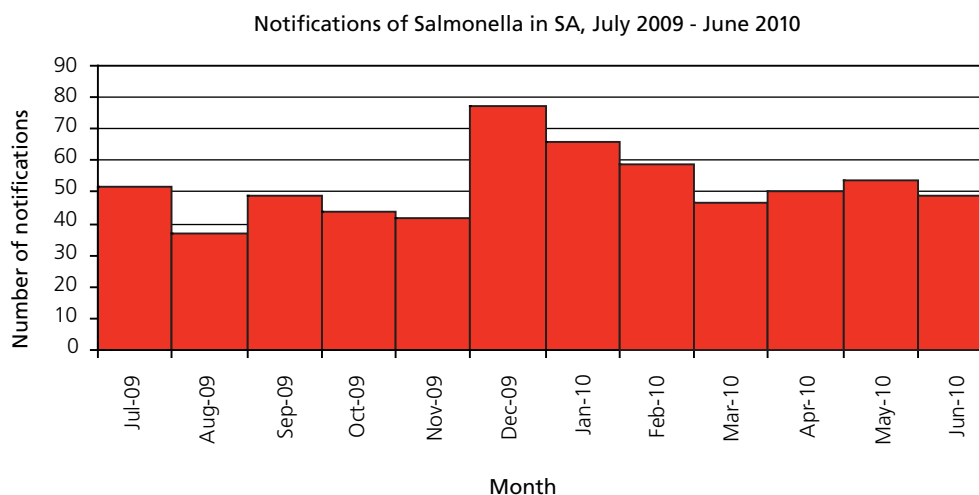
Storage temperatures were also monitored and recorded at the point of sale to assess compliance with Standard 3.2.2 clause 6 of the Code.

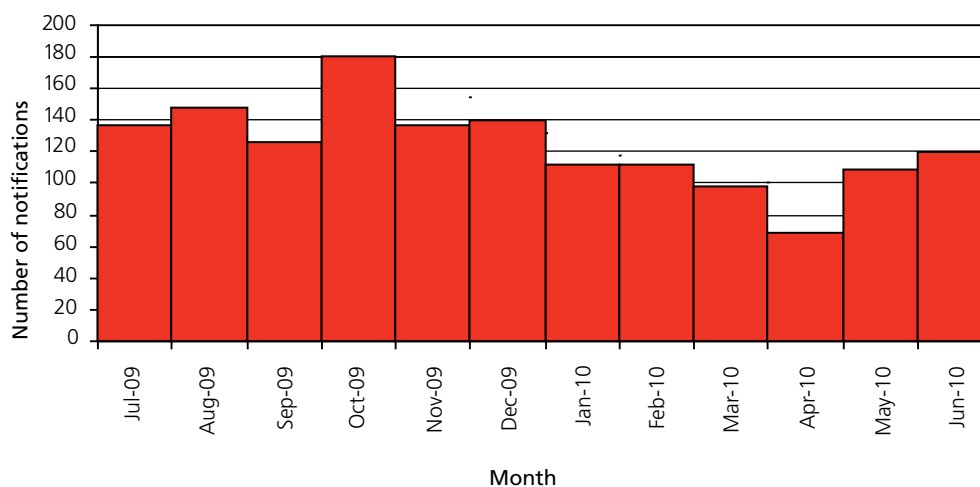
Background to the survey

Chicken eggs are a common food and one of the most versatile ingredients used in cooking. A number of food borne outbreaks across Australia has implicated eggs as a source of infection through epidemiological evidence.

For the period of 1 July 2009 to 30 June 2010 there were a total of 626 cases of *Salmonella* infections reported to SA Health.

Of the total 2251 cases of food borne illnesses reported to SA Health for the period of 1 July 2009 to 30 June 2010, 27.8% were due to *Salmonella* spp.



Notifications of *Campylobacter* in SA, July 2009 - June 2010

OzFoodnet report- A Dyda July 2010

Standards

The Food Act 2001 requires food businesses not to sell food that is unsafe or unsuitable for human consumption.

Clause 4 of Standard 2.2.2 of the Code prohibits the sale of dirty or cracked eggs for human consumption. Additionally, Standard 1.6.2 of the Code sets out the requirements for processing of dirty or cracked eggs. For instance, dirty or cracked eggs must be pasteurised or undergo an equivalent treatment so that the egg product meets the microbiological criteria specified in Standard 1.6.1 of the Code.

FSANZ is developing a Primary Production and Processing Standard for Eggs and Egg Products (Proposal P301) to reduce the risk of food borne illness from contaminated eggs.

Any new standard developed in this process will form part of Chapter 4 of the Code. It will be applicable to all States and Territories and conform to the principle of minimum effective regulation, where requirements will only be put in place to the extent necessary to fulfil the stated goal.

What foods were tested?

A total of eighty samples of eggs (eighty x one dozen) were purchased periodically over the financial year, capturing different brand and production types of eggs available for retail sale in South Australia.

What did we test for?

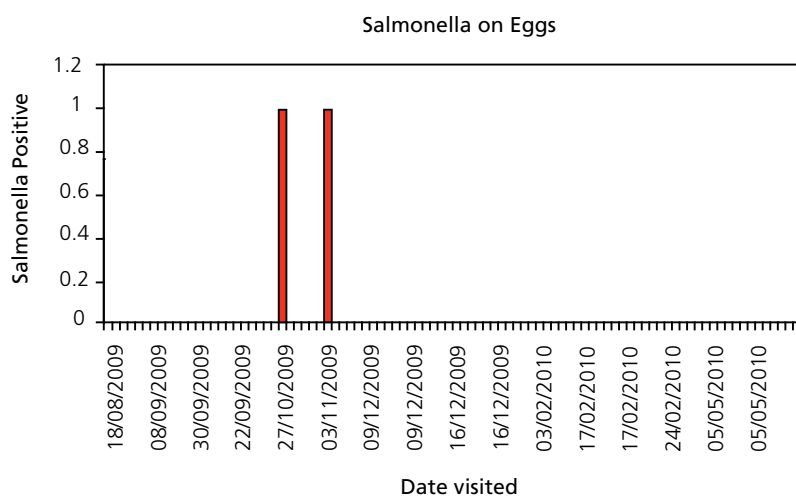
All samples were sent to the IMVS Food and Environmental Laboratory in Adelaide for analysis. Samples were analysed for *Salmonella* spp.

For all samples, the external shell and contents were tested separately for *Salmonella* spp. contamination. Eggs were examined visually before being sent to the laboratory for testing. This was to confirm the absence of cracks and eggs with dirty marks (eg faecal material, feathers, dust, mud, blood and the contents of other eggs) other than natural markings or printed marks. If any egg from a box of twelve was considered dirty or cracked, the laboratory was asked to test the egg separately from the intact eggs. Cracked eggs were examined for salmonella contamination of surface and content.

Results

Table 1. Microbiological quality of raw eggs

	Free Range	Barn-laid	Cage	Not Specified	Totals
Salmonella on shell					
Not detected	41 dozen	6 dozen	22 dozen	9 dozen	78 dozen
S.infatis	0	0	2 dozen	0	2 dozen
Salmonella in contents					
Not detected	41 dozen	6 dozen	24 dozen	9 dozen	80 dozen
Number of cracked eggs					
	4 eggs	0	2 eggs	0	6 eggs
Salmonella on cracked eggs					
	Not detected	–	Not detected	–	–
Salmonella in contents of cracked eggs					
	Not detected	–	Not detected	–	–



General Labelling Requirements

The survey indicated a high level of compliance with general labelling requirements as set out in Part 1.2 of the Code, with 96% of samples fully complying with requirements. Non-compliances were identified for lacking date marking (Standard 1.2.5) and name and address of suppliers (Standard 1.2.2).

Follow up Activities

SA Health will continue to sample and analyse the microbiological quality of fresh eggs periodically. A periodical curve will be developed as data is collected and this data can be used to determine seasonal differences in microbiological quality, as well as allow preventative action to be taken if necessary.

A letter was sent to the 4% of non-compliant egg suppliers, advising them of non-compliances in relation to failure to identify the date mark and manufacturer contact details as required by Standards 1.2.5 and 1.2.2 of the Code.

Discussion of Results

A total of 80 samples of eggs (80 x one dozen) were purchased periodically over the financial year capturing different production types of eggs available for retail sale in South Australia. Six cracked eggs were detected from 80 samples of eggs (80 x one dozen). Cracked eggs were separated from the intact eggs and examined for salmonella contamination of surface and content.

In terms of different production types of eggs, 51.3% were from free-range systems, 30% were from caged production, 7.5% were from barn systems and 11.3% were from unspecified systems. The finding was that two samples (2.5%) were contaminated with *Salmonella* spp. However it was not possible to determine how many eggs within each dozen were contaminated with *Salmonella* spp. as each sample consisted of 12 eggs which were tested as a composite.

There was no statistically significant difference between the prevalence of *Salmonella* spp. contamination in samples from different egg production types or between eggs that were refrigerated or stored at ambient temperature. *Salmonella infantis* was the only isolate found in *Salmonella* spp. positive samples. Both *Salmonella* spp. positive samples were from egg shells.

In comparison with a survey undertaken by SA Health in 2007 the prevalence of *Salmonella* detected in samples has fallen from 3.4% to 2.5 %.

Conclusion

Six cracked eggs were detected from 80 samples of eggs (80 x one dozen). Cracked eggs were separated from the intact eggs and examined for salmonella contamination of surface and content. The results indicated a high level of microbiological quality with detection of target organisms in two samples and an observed overall reduction in the incidence of *Salmonella* spp. in eggs since 2007. It is not unusual for *Salmonella* spp. to be present in the environment and therefore not unexpected that a few isolates were detected from egg shells. The small number of positive samples indicates possible random contamination from the production environment rather than any systemic contamination from infected flocks.

Appendix IX

Food Safety Survey Report
Microbiological Quality of Ready to Eat Meats

June 2010

Author: Carmel Barber, Scientific Officer

A Survey to Assess the Microbiological Safety of Sliced Meats.

Aims and Scope of the Investigation

This was the first year of a five-year survey plan to assess the incidence of *Listeria monocytogenes* in ready to eat meats available through retail outlets in South Australia.

In recent times, manufacturers of vacuum packaged ready-to-eat meats have been subjected to comprehensive *Listeria* control programs administered by Biosecurity SA. This survey is also intended to determine the effectiveness of these *Listeria* control programs.

Ready-to-eat meats (smallgoods) were purchased from supermarkets and specialty and gourmet stores. Products were presented for sale in three different ways: pre-sliced and pre-packaged; pre-sliced at a deli and wrapped on demand; or sliced and wrapped on demand at a deli.

The results were compared against with the Australia New Zealand Food Standards Code (the Code) and the Food Standards Australia New Zealand Guidelines for the microbiological examination of ready-to-eat foods. Additionally the Recall Guidelines for Packaged Ready-to-Eat Foods found to contain *Listeria monocytogenes* at point of sale were used as a reference for consideration of follow up activities to be undertaken should *Listeria monocytogenes* be found in any of the samples.

Background to the survey

Listeriosis is a rare, but very serious, food borne infection that affects vulnerable groups of people; that is those who are immunocompromised, pregnant women and their unborn babies, and the elderly. In South Australia there have been 14 confirmed cases of Listeriosis in the last three years.

The very low infection rate does not reflect the severity of the disease which can cause premature abortion and death in vulnerable populations. Additionally, the disease has a very long incubation period making it difficult to identify a single causal agent.

In the year 2008/09 *Listeria monocytogenes* was implicated in 32% of all national recalls.

While manufacturers of vacuum packaged ready-to-eat meats are required to maintain *Listeria* control programs, there is little data to identify the effect of these programs in the retail sector and additionally how well the retail sector manages and controls the risk of cross-contamination in ready-to-eat food prior to sale.

Standards and Guidelines

The *Food Act 2001* makes it an offence to sell food that is unsafe or unsuitable for human consumption. The Code sets standards for food safety, composition, chemical and microbiological limits.

Standard 1.6.1 establishes microbiological limits for specific pathogens in certain foods, including *Listeria monocytogenes* in packaged, cooked, cured/salted meats as set out in Table 1.

Food	Micro-organism	n	c	m	M
Packaged cooked cured/salted meat with added lactic acid producing cultures	<i>Listeria monocytogenes</i> /25 g	5	0	0	0

*Abridged table.

n means the minimum number of sample units which must be examined from a lot of food as specified in Column 3 of the Schedule in this Standard.

c means the maximum allowable number of defective sample units as specified in Column 4 of the Schedule.

m means the acceptable microbiological level in a sample unit as specified in Column 5 of the Schedule.

M means the level specified in Column 6 of the Schedule, when exceeded in one or more samples would cause the lot to be rejected.

In addition to mandatory standards, the FSANZ "Guidelines for the microbiological examination of ready-to-eat foods (December 2001) and the "Recall Guidelines for Packaged Ready-to-Eat foods found to contain *Listeria monocytogenes* at point of sale" were applied where appropriate to these products.

A summary of the application of these guidelines is provided in Tables 2 and 3 below for use where *Listeria monocytogenes* is identified in ready-to-eat meats that:

(a) are not packaged	Table 2 applies
(b) are packaged, require refrigerated storage and support the growth of <i>Listeria monocytogenes</i>	Table 3, Category 1
(c) all other packaged ready-to-eat meat including products that will not support the growth of <i>Listeria monocytogenes</i>	Table 3, Category 2 applies

Table 2: Guideline levels for determining the microbiological quality of ready-to-eat foods*

Test	Microbiological Quality (CFU per gram)			
	Satisfactory	Marginal	Unsatisfactory	Potentially Hazardous
<i>Listeria monocytogenes</i>	not detected in 25g	detected but <10 ²		≥10 ²

*Abridged table showing criteria for *Listeria monocytogenes* only.

Table 3: Recall Guidelines for Packaged Ready-to-eat Foods found to contain *Listeria monocytogenes* at point of sale. Food categories and Action levels

Category of food	Level of <i>L. monocytogenes</i>	Action
Category 1 – ready-to-eat foods requiring refrigerated storage and able to support the growth of <i>L. monocytogenes</i> ;	Detected in 25g#	recall
Category 2 – all other packaged ready-to-eat foods	≥100 cfu per gram	recall

What foods were tested?

The survey establishes that a total of 400 sample units of ready-to-eat meats will be collected over a five-year period.

In the first year, 60 samples were purchased in metropolitan Adelaide between September 2009 and June 2010.

Pre packaged and unpackaged samples were collected from retail outlets on a quarterly basis.

What did we test for?

Ready-to-eat meats were tested for *Listeria spp.*, where a positive test result was reported, the test was continued to confirm the presence of *Listeria monocytogenes* within the declared shelf life.

Results

Packaged Ready to Eat Meats

Sample	Product	Result
30588	Packaged Sliced Pastrami	ND
30589	Packaged Sliced Coppocolo	<i>L. welshimeri</i>
30590	Packaged Sliced Pepper Ham	ND
30591	Packaged Shaved Chicken Breast	ND
30592	Packaged Shaved Turkey	ND
30593	Packaged thinly sliced Roast Pork	ND
30594	Packaged shaved leg Ham	ND
30206	Packaged Honey Leg ham	ND
30207	Packaged Hungarian salami	<i>L. monocytogenes</i> < 100 org/gm
30246	Packaged Roast chicken breast strips	ND
30245	Packaged Shaved Leg ham	ND
30244	Packaged sliced Devon	ND
30238	Packaged ham off the bone	<i>L. welshimeri</i> <100/g

Unpackaged Ready to Eat Meats

Sample	Product	Result
30586	Sliced Ham (Leg ham)	ND
30587	Sliced Chicken Loaf	ND
30595	Sliced Silverside	ND
30596	Champagne Leg ham	ND
30205	Fritz	ND
30208	Roast Pork	ND
30209	Cervelatwurst	ND
30210	Mortadella	ND
30211	Gypsy Ham	ND
30212	Shaved Virginia Ham	ND
30599	Roast Beef	<i>L. monocytogenes</i> < 100 org/gm
30600	Ham off the Bone	ND
30236	Roast Beef	ND
30235	Smoked Chicken Breast	ND
30234	Roast Beef – sliced on demand	ND
30233	Virginia ham – sliced on demand	ND
30232	Shaved Premium Ham	ND
30231	Shaved Ham	ND
30230	Sliced silverside	ND
30229	Virginia ham	ND

Sample	Product	Result
30228	Shaved chicken loaf	ND
30227	Shoulder ham	ND
30243	Chicken Breast	ND
30242	Smoked Ham - sliced on demand	ND
30241	Shaved Roast Beef	ND
30240	Shaved Silverside	ND
30239	Rare Roast Beef - sliced on demand	ND
30237	Boneless Ham	ND
31275	Pepper Ham	<i>L monocytogenes</i> <100/g
31276	Silverside	ND
31277	Thinly sliced Roast Pork	ND
31278	Sliced Smoked Ham	ND
31279	Thinly sliced Turkey Breast	ND
31280	Mortadella	ND
31281	Virginia Ham	ND
31282	Rosemary Chicken Breast	ND
31283	Devon	ND
31284	BBQ Roast Chicken	ND
31285	Lemon Herb Ham	ND
31286	Premium boneless leg ham portions	ND
31287	Smoked Turkey wedges	ND
31288	Shoulder ham	ND
31289	Roast beef	ND
31290	Ham Triple Smoked	ND
31291	Meatloaf	ND
31292	Honey orange ham	ND
31293	Gypsy Ham	ND

Assessment of Results

Of the 60 samples tested five products were found to have Listeria present.

In three samples the presence of *L monocytogenes* was detected and in two samples *Listeria welshimeri*, a non pathogenic strain of Listeria, was detected.

Of the three samples containing *L monocytogenes*, enumeration established most probable numbers of less than 100 organisms per gram in all samples.

Packaged Ready- to- Eat Meats

L monocytogenes was detected at <100 cfu per gram sample in packaged Hungarian salami and is considered not to support the growth of *L monocytogenes* because it is an uncooked fermented meat (UCFM). Standard 1.6.1 does not list *L monocytogenes* as a microbiological criterion for UCFM. Category 2 of the Recall Guidelines for Packaged Ready-to-Eat Foods implies that enumeration of *Listeria monocytogenes* would require a count of >100 cfu per 25 gram for a recall to be required.

Unpackaged Ready-to- Eat Meats

L monocytogenes was detected at <100 cfu per gram in roast beef and pepper ham. Samples were taken from refrigerated display shelves in two different stores. Standard 1.6.1 applies only to packaged meats and as a consequence these test results cannot be interpreted as failing the standard. Reference was made to the guideline levels for determining the microbiological quality of ready-to-eat foods. The guideline defines <100 cfu per gram as marginal.

SA Health followed the Guidelines for the Microbiological Examination of Ready-to-Eat Foods to determine follow up actions where test results identified a product as “marginal”. This action included establishing a source of contamination and ensuring that control measures were established to manage the environment in which these foods are prepared, stored and served.

Follow up Activities

Roast Beef

The sampled product in question had been delivered whole by the manufacturer in vacuum packaging to the retailer (a separate independent business). The sample had been sliced prior to purchase from the retail outlet. The manufacturer is subject to regulatory control through Biosecurity SA, who which in turn notifies SA Health if *L monocytogenes* is detected through its Listeria Control Program. As the product had been opened and sliced by the retailer, it was considered most appropriate to assess the risk of cross-contamination with *L monocytogenes* from the food-handling and preparation environment at the retail outlet.

The retail outlet was inspected to establish cleaning and sanitisation procedures. Environmental swabs were collected from several sites in the retail premises, including the preparation area and slicing machine. Test results indicated that *L monocytogenes* was present at a number of sites, confirming the retail outlet as the most likely source of contamination. Support material and advice concerning Listeria control was provided to management with the support of local government. The site was re-visited and re-tested until satisfactory results were provided. Monitoring is being maintained by local government.

The business also slices and packs soft cheese in vacuum packages, samples were collected of a number of these products however *Listeria spp* was not detected in any of the cheese samples.

Pepper Ham

The sampled product had been sliced for sale in a large supermarket chain service deli separate from the manufacturer. The company was advised of the finding and immediately undertook an internal investigation, re-enforced their cleaning and sanitising program and undertook environmental swabs, all of which reported ‘Listeria not detected’.

The company's follow up was deemed to be effective. Additional surveillance through re-testing is planned for 2010–2011.

Packaged Hungarian Salami

The sampled product was purchased in its package from a large supermarket chain. The result was assessed against Category 2 of the recall guidelines for packaged ready-to-eat foods (see Table 3 above). While no action is required for Ready-to- Eat Meats that do not support the growth of *L monocytogenes*, the supermarket was advised of the test result as a matter of courtesy and to inform their supplier.

Conclusion

This is the first year of a five-year sampling program. Five out of 60 samples had *Listeria* spp. present, in three cases this was further identified as *Listeria monocytogenes*.

While sample numbers are small, no samples of packaged ready-to-eat meat products that do support the growth of *L. monocytogenes* were found to contain *L. monocytogenes*. This may be due to the stringent controls now in place for ready-to-eat meat producers.

Two samples of unpackaged Ready-to-Eat Meats did identify the presence of *L. monocytogenes* and subsequent environmental testing at retail level also confirmed the presence of *L. monocytogenes* in one of these venues. While follow up action was taken to ensure food safety risks were being managed, it should be noted that the short shelf life of these products are likely to restrict opportunity for the growth of *L. monocytogenes* to significant numbers.

Notwithstanding this observation, the importance of good cleaning and sanitation and cross-contamination controls must be emphasised as imperative in retail food businesses.

References

Communicable Disease Control Branch, Notifications received 16 September 2006–15 September 2009.

Food Standards Australia New Zealand, *Food Industry Recall Protocol, a guide to conducting a food recall and writing a food recall plan*, sixth edition, September 2008

Food Standards Australia New Zealand, Guidelines for the microbiological examination of ready to eat foods, December 2001

Food Standards Australia New Zealand, Recall Guidelines for Packaged Ready-to-eat Foods found to contain *Listeria monocytogenes* at point of sale, April 2001

Australia New Zealand Food Standards Code, Standard 1.6.1

Appendix X

Food Safety Survey Report Microbiological Quality of Bakery Products

June 2010

Author: Carmel Barber, Scientific Officer
Glen Martin, Manager Food Standards Surveillance

A survey to determine the microbiological safety of Sweet Bakery products

Aims and Scope of the Investigation

In early 2006 a survey was undertaken to determine the microbiological safety of sweet baked goods. This 2009 survey is intended to follow up on the 2006 survey and aims to gauge the effectiveness of control measures established in 2007.

This survey will also provide an opportunity to make recommendations with regard to future food safety controls in bakeries handling high risk foods.

Fifty (50) sweet baked goods were sampled, with a focus on potentially high risk baked goods that included fresh cream or custard fillings.

Background to the survey

In 2006–07, SA Health conducted a survey of a selection of high risk sweet baked goods to establish the prevalence of pathogens and hygiene indicator organisms. Test results concluded that there was a good level of compliance for *Salmonella spp* and *Staphylococcus aureus*, however approximately 30% of products tested indicated unsatisfactory results for Standard Plate Count (SPC) with 2% recording unsatisfactory results for E coli.

As a result of the 2006–07 survey the SA Public and Environmental Health Council asked Chief Executive Officers of Local Councils to implement additional surveillance strategies through EHOs. These strategies included

- reclassification of inspection frequency to six monthly
- the use of a “high Risk Baked Foods Check List” during food business inspections
- distribution of a food safety poster for high risk bakeries.

Standards/Guidelines

The *Food Act 2001* requires food businesses not to sell food that is unsafe or unsuitable for human consumption.

The Australia New Zealand Food Standards Code (the Code) sets out microbiological limits for foods as well as food product standards for some foods.

Standard 1.6 of the Code does not make provision for high risk bakery foods. Guideline criteria developed by FSANZ Guidelines for the Microbiological Examination of Ready-to-Eat Foods (December 2001) has been used as a reference to assess test results for this survey. Three levels of Standard Plate Count (SPC) are listed in this guideline for determining the microbiological quality of ready-to-eat foods, based on food type and the processing/handling the food has undergone.

For the purposes of this survey, Level 2 was used as the reference criteria as it applies to Ready-to-Eat Foods where some components have been cooked, then further handled (stored, sliced or mixed) prior to preparation of the final food or where no cooking process has been used.

Table 1: Guideline levels for determining the microbiological quality of ready-to-eat foods

Test	Microbiological Quality (CFU per gram)			
	Satisfactory	Marginal	Unsatisfactory	Potentially Hazardous
Standard Plate Count – Level 2	<10 ⁶	<10 ⁷	≥10 ⁷	
<i>Enterobacteriaceae</i> including <i>coliforms</i>	<10 ²	10 ² -10 ⁴	≥10 ⁴	
<i>Escherichia coli</i>	<3	3-100	≥100	
Coagulase +ve <i>staphylococci</i>	<10 ²	10 ² -10 ³	10 ³ -10 ⁴	≥10 ⁴ SET +ve
<i>Bacillus cereus</i> and other pathogenic <i>Bacillus</i> spp	<10 ²	10 ² -10 ³	10 ³ -10 ⁴	≥10 ⁴
<i>Salmonella</i> spp	Not detected in 25 g			detected
<i>Listeria monocytogenes</i>	not detected in 25g	detected but <10 ²		≥10 ²

What foods were tested?

A total of 50 samples of sweet baked goods were tested, with a focus on potentially high risk baked goods obtained from 26 bakeries across South Australia.

Samples consisted of cold set custard products and products with fresh cream or fruit filling or both, and included cream buns, vanilla slices, custard tarts, products with cream and custard and cream or custard baked goods with fruit.

Products containing imitation cream are not considered to support the growth of pathogenic bacteria or production of toxins from spore regeneration and consequently were not sampled in this survey.

What did we test for?

All samples were delivered to the Institute of Medical and Veterinary Science (IMVS) Food and Environment Laboratory under refrigeration on the day of their collection and were analysed for SPC, Coliforms, *E. coli*, *Staphylococcus aureus*, *Listeria* spp. and *Salmonella* spp.

The tests applied from the guideline provide a range of most likely pathogens and food spoilage organisms and were used to assist determination of temperature control and hygienic handling practices from test results.

Results

Table: Microbiological results (organisms per gram)

Business	Product	SPC (at 30°C)	Coliforms	E. coli	Salmonella	Listeria	S. aureus
1	Snowball Jelly cakes	1.7 x 10 ⁵	9.2	<3	nd	nd	<100
2	Custard Tart	30	<3	<3	nd	nd	<100
2	Kitchener Bun	2300	<3	<3	nd	nd	<100
3	Apple custard Tart	2.8 x 10 ⁶	<3	<3	nd	nd	<100
3	Fruit flan- custard	7500	<3	<3	nd	nd	<100
4	Strawberry cream puff	3 x 10 ⁷	>1100	>3	nd	nd	<100
4	Canoli - custard	9.4 x 10 ⁶	240	<3	nd	nd	<100
5	Vanilla slice	1.7 x 10 ⁵	11	<3	nd	nd	<100
5	Bee Sting with Cream	9.5 x 10 ⁴	75	<3	nd	nd	<100
5	Jelly cakes with cream	>3 x 10 ⁷	<3	<3	nd	nd	<100
6	Vanilla slice	8400	<3	<3	nd	nd	<100
6	Apricot turnover	3.2 x 10 ⁴	<3	<3	nd	nd	<100
7	Vanilla slice	1600	<3	<3	nd	nd	<100
7	Apple Turnover	>3 x 10 ⁷	75	<3	nd	nd	<100
8	Fruit turnover	>3 x 10 ⁷	<3	<3	nd	nd	<100
8	Custard Tart	10	<3	<3	nd	nd	<100
9	Beesting	1.5 x 10 ⁵	7.4	<3	nd	nd	<100
9	Apricot turnover	3500	7.4	<3	nd	nd	<100
10	Custard Tart	6600	<3	<3	nd	nd	<100
10	Vanilla slice	30	<3	<3	nd	nd	<100
11	Custard Flan	10	<3	<3	nd	nd	<100
12	Jelly cakes with cream	2.5 x 10 ⁷	3.6	<3	nd	nd	<100
12	Custard Apple Tart	1400	<3	<3	nd	nd	<100
13	Vanilla slice	6.1 x 10 ⁵	43	<3	nd	nd	<100
13	Strawberry Tart	9 x 10 ⁴	240	<3	nd	nd	<100
14	Apple Turnover	1.4 x 10 ⁷	3.6	<3	nd	nd	<100
14	Vanilla slice	390	<3	<3	nd	nd	<100
15	Vanilla slice	1.2 x 10 ⁵	3.6	<3	nd	nd	<100
15	Cream Lamington	>3 x 10 ⁷	150	<3	nd	nd	<100
16	Kitchener Bun	1.3 x 10 ⁴	9.2	<3	nd	nd	<100
17	Galaktabouriko	10	<3	<3	nd	nd	<100
17	Cream Kataifi	8.7 x 10 ⁴	<3	<3	nd	nd	<100
18	Vanilla slice	870	3	<3	nd	nd	<100
18	Custard Tart	50	3.6	<3	nd	nd	<100
19	Banana Caramel Pie	1.5 x 10 ⁷	3.6	<3	nd	nd	<100

Business	Product	SPC (at 30°C)	Coliforms	E. coli	Salmonella	Listeria	S. aureus
19	Fruit flan	>3 x 10 ⁷	14	>3	nd	nd	<100
20	Kitchener Bun	>3 x 10 ⁷	23	<3	nd	nd	<100
20	Chocolate Eclair	>3 x 10 ⁷	21	<3	nd	nd	<100
21	Beesting	1400	<3	<3	nd	nd	<100
21	Custard Berlina	1500	<3	<3	nd	nd	<100
22	Jelly cakes	6000	<3	<3	nd	nd	<100
22	Apricot turnover	8200	43	<3	nd	nd	<100
23	Beesting	7200	>1100	<3	nd	nd	<100
23	Kitchener Bun	1.9 x 10 ⁷	1100	<3	nd	nd	<100
24	Cream Berliner	2.2 x 10 ⁷	<3	<3	nd	nd	<100
24	Vanilla slice	260	<3	<3	nd	nd	<100
25	Vanilla Slice	1 x 10 ⁵	15	<3	nd	nd	<100
25	Beesting	1.8 x 10 ⁶	460	<3	nd	nd	<100
26	Beesting	1.9 x 10 ⁷	43	<3	nd	nd	<100
26	Cream yeast Bun	2 x 10 ⁷	38	<3	nd	nd	<100

Discussion

Fifty samples obtained from 26 bakeries were analysed and assessed against the Guideline for determining the microbiological quality of ready-to-eat foods.

Results were assessed for overall compliance with microbiological guidelines. As each business uses its own unique manufacturing, storage, handling and display characteristics, survey results were summarised in terms of how each business performed and what implications could be drawn from sample results.

Samples from all businesses conformed to the Guideline for *Salmonella spp* (not detected), *Listeria monocytogenes* (not detected) and *Coagulase positive Staphylococci* (less than 100 org/gram).

Of the 26 businesses whose products were sampled, 14 (54%) [4, 5, 7, 8, 12,13,14,15,19, 20, 23, 24, 25 and 26] exceeded guideline tolerances in at least one microbiological criterion.

Five businesses (19% of businesses surveyed) [4, 13, 15,19 and 23] reported results with a high SPC combined with coliforms and/or E.coli. These results would tend to indicate poor hygiene and/or handling practices.

Eight businesses (30% of businesses surveyed) [5, 7, 8,12,14, 20, 24 & 26] reported results with high SPC tending to indicate loss of temperature control post cooking, during additional preparation, storage, handling and display.

Overall, 14 of 26 businesses surveyed (54%) reported marginal or unsatisfactory results when their products were assessed against the Guidelines for the Microbiological Examination of Ready-to-Eat Foods.

Follow up Activities

For each sample that reported a marginal or unsatisfactory result, a warning letter was sent to the bakery concerned and the local Council was also informed of results within their area for follow up.

The results were also discussed at a professional forum for Environmental Health Officers (EHOs) and at the Environmental Health Australia Food Special Interest Group meetings.

SA Health is encouraging EHOs to use a high risk baked foods checklist in addition to the standard Australian Food Safety Assessment (AFSA) Food Business Inspection Checklist when undertaking routine inspections of bakeries.

For the purposes of identification of foods that require temperature control, EHOs have been asked to reference the NSW Food Authority's document *Potentially Hazardous Foods* (September 2008).

Additionally, the Food Policy and Programs Branch is in the process of preparing a food industry bulletin for distribution to local council and industry with a specific focus on the issues identified in this study. This report will also be forwarded to local councils.

Conclusion

Fifty sweet bakery food products were sampled from a total of twenty six bakeries and examined for microbiological safety. Compared with the 2006–07 survey, compliance for *Salmonella spp* and *Staphylococcus aureus*, has been maintained, however, 54% of businesses surveyed reported marginal or unsatisfactory results when their products were assessed against the Guidelines for the Microbiological Examination of Ready-to-Eat Foods.

This study has identified that additional control measures such as improved hygiene and temperature control may be beneficial for manufacturers of potentially hazardous sweet bakery products.

Despite actions taken by SA Health to follow up the 2006–07 survey, the results indicate the need to continue educating the food industry about the risks and control measures required for high risk baked foods. Food premises inspections require a more specific focus on high risk activities, followed by an additional survey by SA Health to verify the effectiveness of increased surveillance.

SA Health is developing guidance documents to further support the food industry and local councils to address this issue.

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Food Standards Australia New Zealand, Food Standards Code, Standard 3.2.2 Food Practices and General Requirements.

NSW Food Authority, *Potentially hazardous foods: Foods that require temperature control for safety*, September 2008.

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Appendix XI

Food Safety Survey Report
Additives in Cheese Products

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A Survey to Assess the Levels of the Permitted Additives Sulphur Dioxide and Nitrates, as well as the Use of Colours in Cheese and Cheese Products

Aims and Scope of the Investigation

Twenty (20) cheese products were sampled, with a focus on products specifically marketed for children.

Products included cheese sticks, cheese shapes, individually wrapped cheese portions and cheese spreads.

Incidental to the main survey, where the cheese was considered to be highly coloured, those samples were analysed for the presence of artificial colours; and where claims were made on the label with respect to fat content, the product was also analysed for fat content.

The survey also checked compliance against the Australia New Zealand Food Standards Code (the Code) at the point of sale.

Background to the survey

In recent years there has been an increase of cheese products specifically targeting young children in the marketplace. These include brightly coloured packaging with cartoon characters, individually wrapped portions, and cheese portions shaped like well-known children's characters or in animal shapes. This could be related to an increase in Healthy Eating Guidelines for School Lunches, and the reduced number of child care facilities that provide meals for under five year olds.

While many surveys had previously been undertaken to review the microbiological safety of cheese products, with a focus on soft cheese, little work has been done in recent years to assess the chemical safety of cheese products and conformity to the requirements of the Code.

Additionally, although cheese products are clearly labelled, parents may not be aware that the addition of preservatives to cheese products is permitted to prevent or slow down the growth of mould, yeast and bacteria, which may spoil food and cause severe illness in people. The most widely used preservatives are sulphites (including sulphur dioxide), sorbates (including sorbic acid), and nitrates.

It is quite uncommon for people to have allergic reactions to sorbates in foods; however sulphites may cause asthma-like symptoms in those who have asthma or chronic allergic conditions.

Additionally, although nitrates have been added to foods as a preservative for many years, some people choose to avoid them, as other studies have suggested a link between consumption of high levels of nitrates in foods and long-term health risks such as cancer.

In the last 10 years there has only been one study that considered the presence of additives in cheese products. It is therefore timely and appropriate to ensure that mandatory limits for these additives are adhered to in cheese products.

Standards

The *Food Act 2001* requires food businesses not to sell food that is unsafe or unsuitable for human consumption. Standard 1.3.1 of the Code, Schedule 1 includes the following permitted additives in cheese and cheese products:

SCHEDULE 1. Permitted uses of food additives by food type 1.6 Cheese and cheese products*

INS Number	Additive Name	Max Permitted Level	Qualifications
160b	Annatto extracts	50 mg/kg	
200 201 202 203	Sorbic acid and sodium, potassium and calcium sorbates	3000 mg/kg	
220 221 222 223 224 225 228	Sulphur dioxide and sodium and potassium sulphites	300 mg/kg	
234	Nisin	GMP	
235	Pimaricin (natamycin)	15 mg/kg	on cheese surfaces, based on individual cheese weight
251 252	Nitrates (potassium and sodium salts)	50 mg/kg	calculated as nitrate ion
338	Phosphoric acid	GMP	
555	Potassium aluminium silicate	10000 mg/kg	
560	Potassium silicate	10000 mg/kg	

*Additives in Schedules 2, 3 and 4 are permitted

What foods were tested?

A total of 20 samples of cheese products were tested, which were obtained from a range of supermarket outlets across metropolitan Adelaide. Only one sampled product was manufactured in South Australia and three products were imported.

Samples consisted of cheese sticks, cheese shapes, individually wrapped cheese portions, cheese spreads and other highly coloured cheese products.

What did we test for?

All samples were delivered to the National Measurement Institute and analysed for

- Sulphur dioxide, sodium sulphite, sodium bisulphite, sodium metabisulphite, potassium metabisulphite, potassium sulphite, potassium bisulphite – (calculated as sulphur dioxide)
- Sodium nitrate, potassium nitrate – (calculated as nitrates).

Two orange coloured cheese products were tested for artificial colours, including;

- Allura Red AC
- Amaranth
- Azorubine
- Erythrosine
- Poncea 4R
- Sunset Yellow FCF
- Tartrazine
- Green S
- Brilliant Blue FCF
- Indigotine

Additionally, three products that had a claim regarding fat content on their label were analysed for fat content.

Results

Table 1. Additives in cheese products

Product	Sulphur dioxide mg/kg	Nitrates mg/kg	Synthetic colour	Fat g/100-g
Cheddar Vintage	100	<5		
Processed Cheese Slices	<10	8		
Cream Cheese Mini tubs	<10	<5		
Cheese Spread	<10	19		
Processed Cheese snack product	<10	11		
Processed Cheese snack product	<10	<5		
Cheddar (Shelf Stable Block)	<10	<5		
Cheese Spread	<10	18		
Cream Cheese Spread	<10	5.2		
Cheddar Cheese Spread	<10	11		
Processed Cheese Shapes	<10	<5		
Cheddar Cheese snack product	<10	<5	ND	
Tasty Cheese snack	<10	9.5	ND	
Processed Cheese	<10	11		
Cheddar Slices	<10	5.6		
Reduced Fat Cheese slices	<10	<5		23.5
Reduced Fat Cheese slices	<10	7.7		15.5
Low Fat Cheese slices	<10	10		6.5
Mild Cheddar Cheese	<10	<5		
Cheese Shapes	<10	<5		

Assessment of Results

All samples were found to conform to the Code with respect to sulphites (calculated as sulphur dioxide) and for nitrates. The two samples that appeared to be slightly orange in colour were found not to contain any artificial colours.

The three products that had a claim on the label with respect to the fat content of the food were found to conform to the claim and to the information included on the label's nutrition information panel.

Conclusion

Twenty cheese products were sampled and examined for chemical standards and conformity to the Code. All samples conformed to the Code with respect to additives allowed in cheese and labelling requirements regarding health claims.

The majority of cheese products had results below the limit of detection for that additive, which suggests that other processes are in use to control micro-organisms of concern. In particular this survey indicates that these products can safely be provided to children who have allergies to sulphites.

Additionally, these results are consistent with the 2004 Annual Total Diet Survey results which reported similar nitrate levels in cheese products sampled and concluded that cheese products contributed less than 5% of dietary exposure to nitrates.

For more information

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