ANNUAL FOOD TESTING REPORT 2014 - 2015

NSW GOVERNMENT
Department of Primary Industries
Food Authority

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Introduction

As of October 2014, DTS Food Laboratories (DTS) became the primary testing provider for the NSW Food Authority (the Food Authority)[1]. DTS Food Laboratories began as Dairy Technical Services in 1954. Services provided by DTS include microbiological, physical, GMO, allergen, chemistry and nutritional composition testing. DTS has had National Association of Testing Authorities (NATA) accreditation since 1961.

At the conclusion of each financial year, the Food Authority prepares a report outlining testing conducted by the Food Authority's primary provider. This report does not include testing conducted by other laboratories.

Why test?

Samples are submitted for testing due to a variety of reasons such as hygiene assessment, foodborne illness investigation, verification of the Food Authority's program and other research. The testing results are then used to:

- ensure compliance to regulatory requirements
- assist with any required enforcement action
- respond to any incidents that occur in the industry
- provide scientifically based industry communication, training and advice
- provide scientifically based consumer advice and community information
- assist with any local government concerns and complaints
- assist with the development of food regulatory framework
- assist with the evaluation and review of regulations
- assist with the development of emergency management framework

[1] Prior to this, NSW Forensic & Analytical Science Service (NSW FASS) was the primary provider for the Food Authority. Food testing conducted by the NSW FASS for July to September 2014 has been included in the 2013 – 2014 annual testing report (www.foodauthority.nsw.gov.au/_Documents/scienceandtechnical/annual_food_testing_report_2013_2014.pdf))

A year in review

Between October 2014 and June 2015, a total of 3,265 samples were sent to DTS for testing[2]. The diversity of foods analysed include raw and processed meats, raw and processed seafood, fruit and vegetables, dairy products, and other processed foods. Samples were tested for a range of microorganisms (microbiology), preservatives and nutritional composition (chemistry) or allergens (Table 1). The samples submitted for testing can also be classified into five main categories depending on the reason for testing, as can be found in Table 2.

Table 1. Number of samples based on the type of testing

Types of test	Number of samples[3]
Microbiology	2,935
Chemistry	327
Allergens	3

Table 2. Number of samples submitted per category based on the reason for testing

Category	Samples			
	Microbiology	Chemistry	Allergens	Total
Business audits & inspections	2	108	-	110
Compliance investigations	-	30	2	32
Food incident response & complaints	1,511	51	1	1,563
Survey program	933	38	-	971
Verification program	489	100	-	589
Total	**2,935**	**327**	**3**	**3,265**

[2] For the July to September 2014 period, 685 samples were tested by the NSW FASS.
For the full 2014/15 financial year (July 2014 to June 2015), a total of 3,950 samples were tested.

[3] Please note that the same sample can be tested for both microbiology and chemistry e.g. a range of microorganisms and pH. These products are included in the microbiology section.

Surveys commenced in 2014-2015 and continuing into 2015-2016

The Food Authority conducted a number of surveys in 2014-2015 (listed below). The aim of these surveys were to gather information to inform the Food Authority's future risk assessment work. Each survey consisted of a large number of samples, so they are continuing into the 2015-2016 financial year.

- Microbiological quality and handling practices of cut melon and papaya at retail
- Microbiological quality of ready-to-eat (RTE) chilled foods
- *Campylobacter* in non-poultry products

Verification Program

Food Safety Scheme verification program

The microbiological verification program monitors food produced under the NSW Food Safety Schemes (the Scheme). Products manufactured or packaged under the Scheme were purchased or collected from the manufacturer and tested against requirements as set out in the Scheme or prescribed in the Australian New Zealand Food Standards Code (the Code). When a sample was found to be non-compliant, the manufacturer was inspected by an officer from the Food Authority.

From October 2014 to June 2015, a total of 194 samples were randomly collected from 70 businesses and submitted for testing. A total of three products were found to be non-compliant, all due to elevated levels of *E. coli*, at levels of 9, 9.3, and 24 cfu/g. Product types and number of samples tested is outlined in Table 3.

Table 3. Number of samples analysed for the microbiological verification program

Scheme	Product category	No. of samples	No. of non-compliant samples (%)
Meat (70)	RTE meat & poultry	70	0
Dairy (54)	Cheese	18	0
	Cream / milk	3	0
	Desserts / dips	16	0
	Ice cream / gelato	10	0
	Unpasteurised goats milk	7	2
Plant products (55)	Fresh cut fruits & vegetables	20	0
	Seed sprouts	18	0
	Unpasteurised juice	12	0
	Others	5	0
Seafood (15)	Oysters (opened or bottled)	11	1
	RTE seafood	4	0
Total		**194**	**3 (1.5%)**

Poultry verification program

Due to a new national standard introduced in 2012, the growth of the poultry industry and its inherent food safety risks, the Food Authority commenced a new microbiological testing program in January 2015, which monitors food produced by poultry meat businesses.

The program involves testing of raw chicken collected from processing facilities and retailers. From January to June 2015, a total of 46 whole chicken and chicken portions were collected from Sydney-based processors and a further 209 chicken portions were collected from retailers. For samples collected from the processing plants, *Salmonella* and *Campylobacter* were detected in 28% and 80% of samples respectively. At retail, 20% of samples were tested positive for *Salmonella* while *Campylobacter* was detected in 70% of samples.

Detection of *Salmonella* and/or *Campylobacter* in poultry meat is not unexpected. The aim of this program is to gather ongoing data on the prevalence and levels of these organisms so that any changes can then be analysed and the effect of the introduction of the Standard can be monitored.

kJ menu labelling verification program

Food labelling laws in NSW require certain food businesses to disclose nutrition information at the point of sale. These requirements are in response to increased consumer demand for information and part of the NSW Government's broad set of responses to tackle the overweight and obesity epidemic. The laws apply to 'standard food outlets' (retail businesses that sell standard food items) with 20 or more locations in NSW or 50 or more locations nationally. The requirements took effect from February 2012 for retailers and February 2013 for supermarkets.

To ensure that companies remain diligent about ensuring the accuracy between kJ values on their menu boards and the actual content, the Food Authority introduced an ongoing verification program that commenced in July 2014. Each year, approximately 5% of every businesses' standard menu items are tested. Where variation between the analysis and published information is greater than 20%, two further samples are collected from different locations. The average of the three results are then determined and compared with the published information. This was done to take into account variability of handling practices at each shop.

From October 2014 to March 2015, a total of 91 food products from 27 chains were tested. The initial testing revealed that 33 (36%) products had a kilojoule content discrepancy of more than 20% between their menu value and actual value. After further sampling, a total of 22 products (25.6% from the original sample size) still had kilojoule content discrepancy between the menu value and actual value by more than 20%. Eight of the products had less energy content than stated on the menu board and fourteen of them had more energy content than stated on the menu board. All issues identified were discussed directly with the quick service restaurant's head office and rectified.

Egg farm and egg grading facility surveillance program

A surveillance program for egg farms and egg grading facilities was introduced in July 2013. The aim of the program is to gather information on the prevalence of *Salmonella* on these premises after the introduction of regulatory requirements. Results will be compared to baseline data for assessing future impacts of the egg regulation and for monitoring any changes to composition and activities of the NSW egg industry.

From October 2014 to June 2015, a total of 47 environmental (boot swabs, stock feed, and faecal) and egg samples were collected from two businesses. *Salmonella* was detected in eight environmental samples collected from one premise. Detection of *Salmonella* in poultry environment is not unexpected.

Audit and compliance investigations

The Food Authority investigates issues identified by Food Safety Officers (FSO) during audits. These investigations can result in the analysis of food for a wide variety of tests. In addition, FSO may also collect food samples during an audit or inspection if they suspect the business is non-compliant with the Code.

Between October 2014 and June 2015, a total of 142 samples were submitted to DTS. Table 4 provides details of the more common analyses requested. Investigation and/or enforcement action was instigated for non-compliant samples. Common products tested during the year include mince meat and sausages.

Table 4. Type of test for audit and compliance samples

Analysis	Number of samples[4]
Allergens	2
Meat speciation	26
Starch	18
Sulphur dioxide (SO_2)	90

Sulphur dioxide (SO_2) testing

Standard 1.3.1 of the Code permits the use of sulphur dioxide (SO_2) in sausage and sausage meat to a maximum of 500 mg/kg. Raw meat however is not permitted to contain any SO_2. To assess compliance, a survey was carried out in 2013-2014 and continued throughout 2014-2015 where 29 samples of sausages and mince were tested. Six sausage samples were found to be non-compliant.

In addition, during audits (a total of 1,032 audits were conducted in the 2014/2015 FY), FSO's conducted field tests on mince meat products to ensure SO_2 was not being added to mince or cut meat. If the field test was positive, a three-part sample was then taken and submitted to DTS for SO_2 analysis. From October 2014 to June 2015, 61 samples were submitted for testing and 43 of these were found to be positive at levels ranging from 15 to 1,900 mg/kg. As a result, penalty notices were issued to fourteen businesses for non-compliance with the SO_2 standard.

[4] The same sample might be tested for more than one analysis

Food incidents and complaints investigation

The Food Authority investigates foodborne illness in partnership with NSW Health, local councils, and interstate agencies. Between October 2014 and June 2015 a total of 1,563 food and environmental samples were submitted for testing in response to a foodborne illness investigation and its follow up activities.

There were two major incidents which took place during this time:

Salmonella in aged care facilities

In February 2015 there was an outbreak of *Salmonella bovismorbificans* in a number of aged care facilities in the South Coast of NSW. The impact of the outbreak was significant with 33 residents in ten aged care facilities infected and two deaths linked to this outbreak. As part of the Food Authority's investigation, 504 environmental swabs, environmental samples and food samples were collected from: a number of aged care facilities; the central kitchen used to supplies the aged care facilities; and a number of food businesses that supply the central kitchen. These samples accounted for one-third of all microbiological samples obtained as part of incident response during 2014–2015.

The majority of these swabs and samples were collected and analysed within a two week period. A total of four environmental swabs and eight food samples tested positive for *S. bovismorbificans* which was identical to that found in the infected residents. During the investigation, prohibition orders were issued to one of the businesses supplying food to the central kitchen. Three environmental swabs taken during follow-up activities confirmed *S. bovismorbificans* remained in the environment of a business supplying the central kitchen. The prohibition order remained in place until this organism was no longer detected in environmental swabbing. The Food Authority is in the process of prosecuting the business that supplied the central kitchen.

Histamine in fish

In February 2015 a number of consumers who ate at a Sydney café suffered histamine poisoning after eating tuna salads. The product involved was quickly removed from sale by the retailer and wholesaler. As part of its investigation, the Food Authority submitted food samples for analysis. One left over food sample was tested and found to contain histamine at a level of 3,950 mg/kg. Nineteen unopened tins of the same batch of tuna used were also tested for histamine. None were found to contain detectable levels of histamine (the limit of detection is 20 mg/kg).

Salmonella linked to raw egg foods

Outbreaks of foodborne illness linked to the use of raw egg foods continued to be the single most common type of incident investigated by the Food Authority. In 2014, of the 44 confirmed or suspected foodborne illness outbreaks, 26 were due to salmonellosis. Food vehicles were identified for 13 of these outbreaks. Of the 13 food vehicles identified, foods containing raw egg were the source for ten of them.

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