ANNUAL FOOD TESTING REPORT 2017-2018

NSW GOVERNMENT Food Authority

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Introduction

The NSW Food Authority's (the Food Authority) primary objective is to provide consumers in NSW with safe and correctly labelled food.

To support this objective the Food Authority regularly conducts testing of food products to ensure compliance with regulatory requirements, gather information to identify and respond to food safety issues and as part of foodborne illness investigations. The Food Authority also undertakes scientific surveys to identify and better understand food safety issues and risks in NSW. The data obtained in surveys allows the Food Authority to identify and respond to key food safety issues and develop systems and processes to manage the prevention of food poisoning effectively and maintain food safety.

DTS Food Assurance (DTS) is the primary testing provider for the Food Authority. Testing services provided by DTS include microbiological, chemical, foreign object identification, allergen contamination and nutritional composition. DTS has had accreditation from the National Association of Testing Authorities (NATA) since 1961.

At the end of each financial year, the Food Authority reports on the testing conducted by the Food Authority's primary testing provider. This report does not include testing conducted by other laboratories. Other laboratories used included Symbio Laboratories for biotoxin analyses, National Measurement Institute for chemical analyses and NSW Health Pathology for whole genome sequencing and serotyping.

Why test?

Samples are submitted for testing for reasons such as hygiene assessment, foodborne illness investigation, verification of food safety programs and for research purposes. Testing results are then used to:

- Ensure compliance to regulatory requirements
- Assist with the development of food regulatory framework
- Assist with the evaluation and review of regulations
- Assist with enforcement actions
- Respond to incidents that occur in the industry
- Provide scientifically based industry communication, training and advice
- Provide scientifically based consumer advice and information
- Assist local government with any concerns and complaints
- Assist with the development of emergency management framework

A year in review

Between July 2017 and June 2018, a total of 2,697 samples were tested by DTS (Table 1) and 11,630 individual tests were conducted. Sample types analysed included meat, seafood, dairy, plant products, packaged food, food from retail outlets and environmental samples (e.g. swabs and feed samples). Most samples were submitted for multiple tests which may have included both chemical profiling and microbiological assessment. Over 200 different types of tests were performed including pH, water activity, microbiological assessment, allergens, heavy metals and additives such as colours and preservatives.

Table 1. Number of samples per category

Category	Number of samples
Verification programs	893
Research and targeted surveys	428
Food safety compliance	1,376
Total	**2,697**

Verification programs

Food Safety Schemes verification program for ready to eat products

The Food Safety Schemes verification program monitors ready-to-eat (RTE) food that is produced under NSW Food Safety Schemes (the Schemes). Samples collected as part of this program include dairy, meat, eggs, plant products and seafood. RTE foods that were manufactured or packaged under the Schemes were purchased from retail outlets or directly from the manufacturer and tested against the requirements as set out in the Food Safety Schemes Manual.

Between July 2017 and June 2018, a total of 61 samples were randomly collected from 41 businesses and submitted for testing (Table 2). This number of samples is lower than previous years. A high level of compliance in previous years allowed the program to be reduced to allow us to focus on other higher priority areas.

A total of four products from four different manufacturers were found to be non-compliant due to the following reason:

- Four samples of soft cheese contained E. coli greater than the regulatory limit of 10 cfu/g

Follow-up actions taken for non-compliant results included premises inspections by an Authorised Officer from the Food Authority, re-sampling of product for analysis and on-going compliance activities.

Table 2. Number of samples analysed for the Food Safety Schemes verification program

Scheme	No. of samples tested	No. of non-compliant samples (%)
Dairy	30	4 (13.3%)
Meat	20	0 (0%)
Plant products	6	0 (0%)
Seafood	4	0 (0%
Eggs	1	0 (0%)
Total	**61**	**4 (6.6%)**

Raw poultry verification program

The raw poultry verification program gathers ongoing data on the prevalence and levels of *Campylobacter* and *Salmonella* in raw poultry so that any changes over time can be monitored and the effect of Standard 4.2.2 can be analysed.

Samples of raw poultry were collected from processing facilities and retailers in NSW and tested for *Campylobacter* and *Salmonella*.

Between July 2017 and June 2018, a total of 74 whole chickens and chicken portions were collected from processing plants and 296 chicken portions were collected from retail outlets. At the processing plants, *Salmonella* was detected in 12.2% of samples and *Campylobacter* was detected in 91.9% of samples with 24.3% of samples with quantifiable levels of *Campylobacter*. The limit of quantification for *Campylobacter* is 10 cfu/ cm^2 for chicken portions and 5000 cfu/ carcass for whole chickens. At retail, 10.8% of samples tested positive for *Salmonella* and *Campylobacter* was detected in 89.5% of samples with 10.8% of total samples with quantifiable levels of *Campylobacter*. Even though *Salmonella* was detected in some processor and retail samples, none of these samples had *Salmonella* detected at quantifiable levels. The limit of quantification for *Salmonella* is 13 MPN/ $100cm^2$ for chicken portions and 65 MPN/ carcass for whole chickens.

Egg farm and egg grading facility surveillance program

The egg farm and egg grading facility surveillance program gathers information on the prevalence of *Salmonella* at these businesses.

Results are compared to baseline data acquired prior to the introduction of *Standard 4.2.5 Primary Production and Processing Standard for Eggs and Egg Product* in 2012 and data collected from the commencement of the surveillance program. Results will be used for assessing the impact of *Standard 4.2.5.*

Between July 2017 and June 2018, a total of 167 environmental samples and 27 egg samples were collected from six businesses. Environmental samples consisted of boot swabs, stock feed, water and faecal samples and each egg sample consisted of between six and twelve pooled eggs. Salmonella was detected in 22 samples (11.3%), collected from five of the businesses surveyed. All positive samples were environmental (swab) samples. Detection of Salmonella in the poultry environment is expected.

Kilojoule menu labelling verification program

Food labelling regulation in NSW requires specific take away and fast food businesses to label the kilojoule information of standard menu items at the point of sale. This requirement is in response to increased consumer demand for information and part of the NSW Government's broad set of responses to tackle obesity. This regulation applies to 'standard food outlets' (retail businesses that sell standard food items) with 20 or more outlets in NSW or 50 or more outlets nationally.

The Food Authority's Kilojoule menu labelling verification program compares the declared value to the actual energy value from testing to ensure that companies remain diligent about the accuracy of their labelling.

Each year, approximately 5% of the standard menu items from each chain are tested. Where variation between the analysis and published information is greater than 20%, two further samples are collected from two different locations. The average of the three results is then calculated and compared with the labelled value. This helps to account for the variation in handling practices at different outlets and seasonality. If the difference between the declared and analytical energy value is still greater than 20%, the company's head office is contacted to investigate.

Between July 2017 and June 2018, a total of 155 food products from 43 chains were tested, which represents 74% of chains captured by the Regulation in 2017-2018. During initial testing, 54 products (35%) tested from twenty-six chains

had a kilojoule content discrepancy of more than 20%. After repeat sampling, and taking the average of the three samples from the three different outlets, 36 samples (23% from the original sample size) from twenty chains still had a discrepancy of more than 20%. Sixteen of these products had a lower energy content than labelled and 20 products had a higher energy content than labelled. All issues identified were discussed directly with the businesses head office. The business was asked to investigate the issue and provide feedback to the Food Authority. Some of the contributing issues that were identified include products not being made according to the recipe, incorrect kJ calculation, changing of supplier with kJ recalculation and displaying the incorrect label. Corrective actions taken include improving training for making the product to the recipe and reviewing of current kJ values in order to identify any errors.

Research and targeted projects

The Food Authority conducts a number of research projects each year. The aim of these projects is to gather data to inform the Food Authority's future risk assessment work.

During 2017-2018 a number of projects continued on from 2016-2017. These include the fermented beverages project and the *Campylobacter* attribution survey (National project).

Reports for project work completed in 2016-2017 and published in 2017-2018 include *Campylobacter* in Meat and Offal, *Campylobacter* in Plant Products and Allergen Survey. They can be viewed on the NSW Food Authority's website by following these links:

- www.foodauthority.nsw.gov.au/aboutus/science/market-analysis/beef-lamb-pork-meat-cuts-and-offal
- www.foodauthority.nsw.gov.au/aboutus/science/market-analysis/plant-products-packaged-and-unpackaged
- www.foodauthority.nsw.gov.au/aboutus/science/market-analysis/allergens-survey

Projects continuing into the 2018-2019 financial year

Projects continuing into 2018-2019 include:

- *Campylobacter* attribution survey (National project)
- Fermented beverages

Food safety compliance

Food safety compliance activities include:

- Conducting audits and inspections of food businesses
- Investigating breaches in compliance to the Code
- Investigating suspected foodborne illness
- Investigating labelling complaints and compliance
- Addressing issues identified by Food Safety Officers during audits
- Targeted food business or sector projects to increase compliance

These investigations can result in the analysis of food for a wide variety of tests. Enforcement action may be instigated for any non-compliant samples. Between July 2017 and June 2018, a total of 1,376 samples were submitted to DTS (Table 3).

Table 3. Samples submitted from compliance investigations

Category	Number of samples
Samples taken during audits and inspections	46
Foodborne illness investigations	938
Complaints and Compliance projects	392
Total	**1,376**

Samples taken during audits and inspections

Samples taken during audits usually consist of raw meat samples that have failed a field test for sulphur dioxide (SO_2), which is not permitted in raw meat (SO_2 is permitted in sausages to a certain level). If a field test is positive, a three-part sample is then taken and submitted to DTS for SO_2 analysis. Some of these samples can also be submitted for correct meat speciation. Occasionally, sausage samples are also submitted for sulphur dioxide analysis to ensure they comply with the maximum permitted level.

Between July 2017 and June 2018, 1,177 audits of licensed retail meat businesses were conducted and twenty-one samples of raw meat from ten butchers were submitted for SO_2 testing as a result of a positive field test. Seventeen of these samples were positive, with values ranging from 65 to 5,000 mg/kg. Appropriate enforcement action was taken for these samples.

Other samples taken during audits and inspections include a fermented nut product and plant products tested for pH, water activity and microbiological assessment, and processed meat for its microbiological quality.

Foodborne illness investigations

The Food Authority investigates suspected cases of foodborne illness in partnership with NSW Ministry of Health, local councils, and interstate agencies. Between July 2017 and June 2018, a total of 938 food and environmental samples were submitted for testing in response to foodborne illness investigations and their follow up activities. A notable outbreak is outlined below:

Listeriosis outbreak linked to rockmelons

To support an investigation into human illness caused by *Listeria monocytogenes*, over 750 food and environmental samples were tested which covered a range of different foods (rockmelons, lettuce, strawberries, deli meat, cheese) and various settings including on-farm, wholesale, delicatessens, supermarkets, in response to a general increase in listeriosis in NSW.

It was discovered that the outbreak was linked to the consumption of rockmelons from a large grower in the Griffith area of NSW. An epidemiological investigation found 22 listeriosis cases across Australia were linked to the outbreak, with whole genome sequencing matching the environmental isolates obtained through-chain to human cases. All listeriosis cases were at-risk individuals who contracted their illness in the home. There were no aged-care or hospital acquired cases.

The implicated rockmelon grower was the largest producer in Australia and the operation was generally well run with no obvious hygiene concerns. An investigation found that the most likely cause of the outbreak was a heavy rainfall

event and subsequent dust storms in the area which resulted in a higher than usual amount of bacteria on fruit. The washing systems utilised by the grower were consistent with good industry-practice, which cannot guarantee that all *Listeria monocytogenes* is removed from the surface of the fruit.

It was identified that improved risk communication is needed for vulnerable populations and that this group should avoid consumption of rockmelon (cut and whole). Food Standards Australia New Zealand are working on risk communication measures for this population group.

NSW will be conducting further training and inspections of rockmelons prior to the harvest season commencing in late 2018/early 2019.

The *Listeria* Outbreak Investigation Summary Report for the Melon Industry, October 2018, can be viewed on the NSW Food Authority's website by following this link: www.foodauthority.nsw.gov.au/foodsafetyandyou/special-care-foods/rockmelons

Complaints and Compliance projects

Complaint samples usually result from either a member of the public contacting the Food Authority's helpline or from local council. Samples may be acquired from the complainant or from retail outlets, manufacturers or importers. Common complaints include unlabelled allergens, allergen contamination or poor labelling. Compliance projects usually result from an incident, increase in unknown illnesses, increase in a particular issue seen during audits or inspections or an overseas or interstate event.

Between July 2017 and June 2018, 392 samples were submitted for testing due to a complaint or compliance project.

Complaint samples

Between July 2017 and June 2018, 79 samples were submitted for testing due to a complaint. Of the 79 samples, 76 samples were submitted for testing due to a complaint regarding allergens in food. As a comparison, for the previous period (July 2016 to June 2017), 98 samples were submitted due to complaints regarding allergens in food. Unlabelled allergens or allergen contamination in food continues to be a common cause of complaints received by the Food Authority.

Compliance projects

The significant compliance project conducted this year involved a review of the prevalence of *Listeria* in retail delicatessens. The details are as follows:

Listeria prevalence in retail delicatessens

A project to review the *Listeria* prevalence in retail delicatessens was conducted between November 2017 and May 2018, with joint inspections of 17 businesses in the Campbelltown, Cumberland and Mosman City Council areas (Stage 2). This followed on from an earlier project conducted in 2016-17, which reviewed 31 retail businesses across Canada Bay Council and Northern Beaches Council (Stage 1). Food and environmental samples were submitted and results compared with compliance inspection findings. The findings of Stage 1 were reported in the *Annual Food Testing Report 2016-2017*. One Improvement Notice was issued by the relevant Council.

The most recent project centred on small to medium sized businesses that were found to be higher-risk based on the 2016-17 findings. There was also an extra focus placed on sanitation compliance during Stage 2 of the project. Sanitisers at each business were tested with field test indicators (QUAT (Quaternary Ammonium Compounds) or chlorine) during the inspection.

Nine of the 17 businesses did not comply with sanitation requirements as their sanitisers were not at the correct strength required. A company that was in partnership with many of these businesses that were non-compliant with sanitation was contacted and the issue was rectified.

A total of 49 foods were sampled at the 17 businesses. *L. monocytogenes* (at a level of greater than 1500 cfu/g) was detected in a food from one of the businesses. Non-pathogenic *Listeria* species was found in a food at another business. *L. monocytogenes* was found in the environmental swabs collected from both of these two businesses.

A total of 205 environmental swabs were obtained from 17 businesses. Eighteen of those environmental swabs (from six of the businesses) had *L. monocytogenes* or non-pathogenic *Listeria* spp detected. Again, detections of non-pathogenic *Listeria* spp in food and food contact surfaces suggest the possibility of potential future presence of *L. monocytogenes*.

There was a correlation with *Listeria* found in the environment (particularly with food contact surfaces) and *Listeria* found in the food. This correlation was also associated with sanitation non-compliance.

The food sample that had a level of greater than 1500 cfu/g of *L. monocytogenes* was also associated with temperature control issues found in the storage of food at the business.

In the Stage 2 of the survey, a total of four Improvement Notices and two Penalty Notices were issued for non-compliance.

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