

FoodConnect



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Total Diet Study a vote of confidence for New Zealand food

Results from the 2009 Total Diet Study (TDS), released last December, provide confidence that New Zealand continues to have one of the safest food supplies in the world.

The five-yearly study – which tested 123 commonly eaten foods that had been prepared as for normal consumption – confirmed that the common New Zealand diet poses no food safety concerns from chemical residues or contaminants.

The comprehensive study allowed MAF to estimate the dietary exposure across eight age-gender groups to agricultural chemicals, contaminants (lead, mercury, methylmercury, cadmium and arsenic) and nutrients (iodine, selenium, sodium).

“Total diet studies are one of the most cost-effective means for determining whether people are exposed to potentially unsafe levels of toxic chemicals through food,” acting policy manager Cherie Flynn says.

“Results can reveal trends that may influence MAF’s food safety risk management strategies.”



2009 NEW ZEALAND TOTAL DIET STUDY

Agricultural compound residues, selected contaminant and nutrient elements



For all eight age-gender groups in the 2009 TDS, estimated dietary exposures to the 241 agricultural compound residues tested for were all well below their relevant acceptable daily intake (ADI). Ninety-three percent of these dietary exposures were less than 0.1 percent of the ADI.

“If you look simply at numbers, you’ll see that this year’s results include more residue detections than in the past. This is not unexpected as more sophisticated testing allows us to pick up residues at levels well below what could be detected even in the 2003/04 TDS. Rather, it’s important to emphasise that the levels found are trending down,” Cherie says.

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Testing for contaminant elements also did not show any cause for concern, with lead in our diet now very low and cadmium dietary exposures well below the provisional tolerable monthly intake set by the World Health Organization (WHO).

Estimated dietary exposures to mercury and methylmercury also were well below the respective provisional tolerable weekly intakes set by the WHO. However, those who eat a lot of certain types of fish that have the highest concentrations of mercury (such as large predatory fish like marlin) have the potential to have significantly higher exposures to methylmercury.

The results on intakes of nutrients revealed that mean sodium intakes exceeded levels that can lead to adverse health effects in six of the age-sex groups by 116 -148 percent. Only the diet of 25+ year females was below this level. However, their intake was still two to four times the intake necessary for general health.

On a positive note, although dietary intakes are high, trend data suggests that the intake of sodium in some age-sex groups appears to be slowly decreasing. It's also important to note the great progress the food industry is making in voluntarily reducing sodium in many of the key food categories that contribute the most to people's sodium intakes.

The *2009 Total Diet Study* was carried out by the Institute of Environmental Science and Research (ESR) in Christchurch. Cherie says that reporting has experienced significant delays due to the two Christchurch earthquakes, which impacted heavily on ESR's facilities.

"I would like to acknowledge MAF's appreciation to ESR staff for their professionalism and dedication to this project through what has undoubtedly been a very difficult time for them," she says.

The full 2009 TDS can be found on [MAF's Food Safety website](#).

Malaysia and New Zealand meat partnership

New Zealand exports of beef to Malaysia are gaining momentum again with 14 meat establishments now approved to export their products.

The New Zealand-Malaysia meat product trade was severely curtailed in 2005 because of new halal requirements. Malaysia is an important market for New Zealand meat exporters, and MAF has collaborated closely with the halal authorities there to put the appropriate systems in place to enable trade to resume.

Last December, Malaysia and New Zealand signed an agreement on halal certification, which provides a framework for exports of meat products to Malaysia.

Meat Industry Association Chief Executive Tim Ritchie says industry is fully committed to ensuring that meat exported to Malaysia meets agreed expectations. "The relationships and understanding that have developed during our negotiations have built a strong Malaysia/New Zealand partnership and we are looking forward to developing and further enhancing trading opportunities."

The International Halal Integrity Alliance estimates that in 2009 the global halal food market was worth more than US\$630 billion annually or approximately 16 percent of the entire food industry.

MAF's ongoing efforts – working with the meat industry, other agencies and the New Zealand High Commission in Malaysia – to ensure our meat products continue to be acceptable to Islamic markets have included developing rules for halal meat certification, namely the Animal Products (Overseas Market Access Requirements for Halal Assurances) Notice.

The Notice is designed to give our trading partners greater assurances that New Zealand meat products have been produced according to halal standards. While the New Zealand Government has oversight of the Islamic organisations that provide halal

food export certification, these certifiers will also continue to be approved by the Islamic authority in the importing country.

MAF will continue to work with the Malaysian authorities to make sure consumers there have access to our products in line with our goal of ensuring all New Zealand food exports are fit for purpose, wholesome and suitable to consumers wherever they are.

MAF is also working alongside the Ministry of Foreign Affairs and Trade, industry and the Halal Standards Advisory Council to ensure that New Zealand can provide high-integrity, government-underpinned halal assurances to other key Muslim markets.



Good news survey of *Listeria* in New Zealand smoked salmon

A new survey of contamination with *Listeria monocytogenes* in New Zealand-produced smoked salmon shows existing *Listeria* controls are working well.

Historically, cold smoked fish has been linked to listeriosis, because there is no kill-step to eliminate any *Listeria monocytogenes* present.

MAF commissioned the survey to establish if there is a significant difference in outcomes between manufacturers that produce products under the three regulatory options: The Food Hygiene Regulation 1974, The Food Act 1981 (Food Safety Programme) and the Animal Products Act 1999.

The survey looked at 1212 samples of hot and cold smoked salmon purchased at retail level, and tested at the end of their shelf-life. Only eight samples had detectable levels of *Listeria monocytogenes*, and these were cold smoked. This represents a 1.34 percent incidence rate in cold smoked salmon.

Three of the detections were at levels that could cause illness. These samples were all from the same producer, who has subsequently undertaken corrective action.

The survey was unable to detect any differences between the three regulatory options in terms of controlling *Listeria monocytogenes* in the production of ready-to-eat smoked salmon.

Microbiology specialist adviser Marion Castle says the survey shows New Zealand producers are doing very well compared with international studies. In a 2011 study from the Republic of Ireland, 21 percent of samples tested positive for *Listeria monocytogenes* and in an Italian study carried out the year before, 34 percent of samples tested positive.

“Although we are really pleased with the results from the survey, producers can’t afford to rest on their laurels,” Marion says. “We carried out an audit in conjunction with the survey which identified a lack of knowledge about sources of *Listeria monocytogenes*

and, consequently, where along the processing chain it would be appropriate to carry out microbiological sampling.”

Some operators were also unaware of the guidance and other tools that are available from [MAF](#) or industry associations.

Because of New Zealand’s small population size, it is more difficult to link specific foods with listeriosis here than in other countries, and there have not been any documented cases associated with consumption of smoked salmon. However, listeriosis is a serious illness and all smoked fish is recognised as a high-risk food for at-risk consumers.

The pleasing survey results do not change [MAF’s advice](#) that smoked salmon should not be eaten by at-risk consumers (pregnant women, infants, the frail elderly, and people with lowered immunity).

The full report on the survey of ready-to-eat hot and cold smoked salmon available at retail in New Zealand will be available [online](#).



Listeriosis – the severe illness caused by *Listeria monocytogenes* – is not a common infection in New Zealand. However, the mortality rate in affected individuals is around 30 percent. In 2010 there were 23 laboratory-reported cases of listeriosis. Almost all cases of listeriosis occur in individuals considered “high-risk” (such as people with lowered immunity, pregnant women, neonates and those over 60 years of age), and these people are also more likely to die if they do become infected.

Experts estimate that 85 percent of listeriosis incidence is through foodborne transmission and much of that is via ready-to-eat foods that are stored chilled and have a long shelf-life. For this reason, high-risk individuals are encouraged to avoid such foods.

MAF has recognised and prioritised the need to minimise disease attributed to *Listeria monocytogenes*. MAF’s *Listeria monocytogenes* Risk Management Strategy 2008–2013 has a stated performance target of “no increase in reported incidence of foodborne listeriosis after five years”.

Up-to-date Seafood Code of Practice

After several years of work, the [Processing of Seafood Code of Practice \(COP\)](#) has been published on the Food Safety website. The COP has been updated to align with changes in processing of seafood and the Animal Products Act (1999). It consists of good operating practice, HACCP application and generic RMP models for processing seafood. While the COP is aimed at processors operating under the Animal Products Act, it will also provide a good source of guidance for seafood processors operating under the Food Act 1981.

Food Safety was also the winner on the day

For the All Blacks, the measure of Rugby World Cup (RWC) success was securing the Webb Ellis trophy. For MAF's food safety experts, success was measured by ensuring the festivities took place without players, volunteers, spectators or an estimated 100 000 tournament visitors getting sick from New Zealand's culinary delights.

With no spikes in foodborne illness during the event and no high-profile food safety issues – like the bout of illness that swept through the New Zealand camp before the 1995 RWC final – the event has been a food safety success, according to MAF biosecurity and food safety response acting manager Glen Neal.

He attributes this to the significant planning that went into ensuring the hospitality industry upgraded their food safety risk management to safely feed everyone during the event, as well as the hard work of staff from local councils and public health units who audited these systems before and during the festivities.

More than 180 audits were carried out at team hotels and stadia involved in the event.

"Prevention is better than a cure," Glen says. "Even so, we had plans in place to deal with the worst – but thankfully they weren't needed."

Preparation included a multi-agency simulation exercise led by MAF, the Ministry of Health, Environmental

Science and Research (ESR) and Wellington Regional Public Health staff. It was designed to strengthen the ability to deal with a large national outbreak of foodborne illness and involved more than 80 representatives from 15 agencies across New Zealand.

MAF also worked closely with Cup organisers, RNZ 2011, to enhance requirements for official team and VIP hotels as well as official venues. This included helping hotels adopt the food safety programme (which was audited up to three times before the tournament).

"That was no mean feat," Glen says. "Only eight of the hotels were operating a food safety programme a year out from the tournament, but by July 2011 all 65 hotels had one. All audits were completed by August and overall, the whole event went very smoothly with no confirmed reports of foodborne illness attributed to official venues and hotels. Local councils, public health units and operators worked closely together for a fantastic result."

Glen says the RWC planning was intended to reflect the end-goal requirements of the new Food Bill.

"Thanks to this event, there are now more than 60 hotels around the country that have audited food control plans and more than 8000 extra food handling staff have received food safety training. This has created a legacy of improved food safety knowledge and experience among operators and staff. Food safety, together with the All Blacks and New Zealand, was definitely a big winner at RWC 2011."

Ensuring raw milk isn't a raw deal

MAF has been consulting on the rules for selling raw drinking milk from the farm gate. The consultation, which closed on 5 December 2011, attracted nearly 1700 submissions.

The consultation document canvassed opinion on the rules to manage food safety risks associated with the limited sale of raw (untreated) drinking milk direct from the farm – what is commonly known as farm gate sales.

Raw milk is a high risk food because it hasn't undergone heat treatment such as pasteurisation to kill off illness-causing bacteria such as *Salmonella*, *Campylobacter*, *E. coli* and *Listeria*.

While a healthy person's immune system can fight bacteria, it takes much lower levels of foodborne bacteria to make vulnerable people ill. That includes pregnant women, young children, frail elderly people and those with weakened immune systems such as diabetics and people with a current or recent illness. For that reason, MAF recommends these consumers avoid drinking raw milk.

Currently the Food Act 1981 allows dairy farmers to sell a maximum of five litres of raw milk to people for their own personal use or for their families to consume. The Animal Products Act 1999 requires farmers selling raw milk "at the farm gate" to operate under a Risk Management Programme (RMP) that specifically covers this activity. The Food Standards Code requires farmers to give information to people buying raw milk stating that it is not pasteurised and advising how it should be stored and used.

There are a number of issues with legal interpretation and enforcement of the current provisions in the Food Act and with the requirement for an RMP and these issues prompted the recent consultation.

The Government has made a commitment to continue farm gate sales of raw drinking milk. The consultation document outlined

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three options for future sales. One option proposed not making any changes, while the other two aimed to address the legislation issues and provide for farm gate sales in a way that manages the food safety risks.

The consultation document did not cover sales of raw drinking milk on a more commercial scale – that is in larger quantities or for sales off the farm. However, MAF received a large number of submissions that support raw drinking milk being made more widely available.

MAF is currently analysing submissions and examining options for future legislation. Once completed, MAF will make recommendations to the Minister for Food Safety. Both a summary of submissions and analysis will be posted on [MAF's Food Safety website](#).

Changes to legislation will be required to implement the outcome. Any legislative changes will depend on the passage of the Food Bill, which is currently before Parliament. MAF intends to consult on the

detail of any proposed legislation changes to allow farm gate sales in the future, including regulations under the Animal Products Act 1999 and under the proposed new Food Act.

MAF will contact interested parties and those who made submissions on the first consultation document when the second consultation document is released. It will also be posted on [MAF's website](#).



New guidance for cooking liver dishes

A recent increase in campylobacteriosis cases traced back to consumption of undercooked liver has prompted MAF to update its advice on how to properly cook and handle liver.

The spike in cases happened in the Wellington region where 110 campylobacteriosis cases were notified in August last year compared with 66 for August 2010. The cases were traced back to consumption of pate, mousse and sliced liver.

Food service specialist adviser Penny Tregear says this outbreak is the first time where cases have been traced back to consumption of lamb's livers.

"The bulk of liver dishes have traditionally been poultry oriented, but we know chefs are more frequently using lamb's fry. While poultry is widely recognised as one of the most common causes of campylobacteriosis, it's obvious from talking to the operators involved with this outbreak that they knew little about the risk of *Campylobacter* contamination from lamb's livers."

Penny says livers can be tricky to cook: if they are overcooked they can become tough, but if they are undercooked they aren't subjected to enough heat to kill any bacteria that may be present.

"Colour is not a good indicator of whether livers are cooked through because they can vary in colour, even when they are from the same type of animal. Probing is the ideal method for ensuring they are sufficiently cooked."

Bacteria present in livers will be killed off at an internal temperature of 75°C.

When cooking liver dishes it is also important to:

- wash hands thoroughly before and after handling the product;
- source the product from an approved supplier;

- follow good separation processes to keep raw and cooked product separate.

MAF's guidance material on cooking liver has been updated to include other types of liver than just poultry. It can be found on our [website](#).

The Food Control Plan template on cooking is also being updated to include advice for several types of liver. Once available it will be distributed through MAF's website and Environmental Health Officers at local councils.

MAF's *Campylobacter* Risk Management Strategy launched in November 2006 aims to halve the annual incidence of foodborne campylobacteriosis cases. This is being measured from a baseline established in 2007 and the aim is to achieve this goal by 2013. The strategy document is available as a PDF on our [website](#).



New guidance material for salami makers

MAF has been working with small manufacturers of salami products (also known as uncooked comminuted fermented meat or UCFM) to develop new guidance that will help them meet their obligations under the Food (Uncooked Comminuted Fermented Meat) Standard 2008.

A sampling programme of UCFM products and manufacturers carried out in 2009 found that small operators – especially those registered under the Food Hygiene Regulations 1974 – were finding it difficult to comply with the standard. Compliance requires validation of processes, laboratory testing of product and a higher level of documentation than these businesses are used to.

MAF has previously developed guidance for larger-volume manufacturers who generally have access to specialist food safety expertise. The new guidance is in the form of a template that smaller businesses can pick up and use. It shows one way to meet the standard.

The template takes a step-by-step approach to food safety and identifies what needs to be done at each step of the manufacturing process to meet the requirements of the standard. It includes the use of an online predictive model so operators can check whether a recipe will consistently produce a safe product.

In developing the guidance, MAF sent a draft to all known UCFM manufacturers for comment, and subsequently visited small operators to learn more about their practices, processes and products. Production and processing specialist adviser

Sheryl Tuck says these visits provided interesting insights into these operators' salami-making activities.

"Many of them had been making products to traditional recipes before they came to live in New Zealand. They were usually aware of many of the issues that can affect the product safety and that the standard is intended to address."

These include:

- the need for good quality meat from an approved source;
- using fresh starter cultures for each new batch;
- the importance of rapidly lowering pH (acidity) to reduce numbers of organisms;
- the importance of drying a product sufficiently to reduce the level of water available for any remaining organisms to grow.

"Having read through the template guidance, operators keeping records had usually adapted their existing systems to meet the requirements of the Food (Uncooked Comminuted Fermented Meat) Standard 2008", Sheryl says. "During our visits we could show operators how to use the guidance to validate their processes."

In preparing the guidance material, MAF has also sought comments and input from the Environmental Health Officers at local councils who inspect premises for compliance with the regulations, and Health Protection Officers from regional public health units who assess wholesale premises for registration.

The UCFM guidance is available from [MAF's Food Safety website](#).

If you would like to know more, contact
Sheryl Tuck sheryl.tuck@maf.govt.nz or
Chris Hewins chris.hewins@maf.govt.nz.

Cooking sous vide safely

MAF is interested in how chefs cook using the "sous vide" method. Findings from a survey currently being conducted will be used to develop guidance material on how to safely cook food using this method.

Sous vide differs from standard cooking methods because the raw food is vacuum packed in plastic pouches before being cooked in an immersion circulator (water bath) or combi steamer using carefully controlled heat over a set time period. The food is then chilled and refrigerated to be re-heated when needed.

Food service specialist adviser Penny Tregear says sous vide has been used more widely in recent years. It has found favour with some chefs because it prevents moisture loss during cooking, controls wastage through portion cooking and allows for food such as steak or duck breast to be cooked to the same consistency throughout.

"The downside is that the cooking temperatures are lower than we normally recommend for killing any bacteria in the food," Penny says. "That means there is a risk that bacteria could multiply during the longer cooking period, which increases the risk of foodborne illness if safe food practices are not followed."

MAF is currently conducting a [survey](#) across the food service sector to gain a better understanding of chefs' current practices with sous vide. "We're interested in the way they pasteurise their food which would kill off any bacteria present," Penny explains. "So we are asking: How do you know those bacteria are killed when you cook at lower temperatures? Do you validate temperatures through probing or go with advice in available books, and if so are those books based on science or chefs' experimentation?"

MAF has also commissioned a study analysing published information from scientific studies on cooking times and temperatures for killing bacteria in meat. Findings from this report will also feed into the new sous vide guidance being developed.



Refreshed food safety website up-and-running

MAF's foodsafety.govt.nz website has received a significant makeover.

Content on the updated site – which went live last October – has been rewritten and designed specifically for industry users. While the site may not look hugely different at a first glance, the layout of information has been significantly changed to ensure users can get optimum use from the information.

For information relating to a specific sector, look under [Food Sectors](#). For information relating to more than one sector look under [General requirements and programmes](#). If you are looking for a specific document, then check out the [Industry e-Library](#).

It's important to note that if you had bookmarked specific pages on the old site, these won't carry over to the new site. To find the new location of the pages you need, type the relevant keywords into the advanced search bar located in the top right corner of the front page.

If you have any comments or questions about the new site, we'd love to hear from you. This way we can continue to enhance the site to meet your needs. It would be especially useful if you could let us know of any problems, so we can look to resolve them as quickly as possible. Our contact details are under on the [Contact Us](#) link on the new website.

FSANZ website makeover

Users of the Food Safety Australia New Zealand (FSANZ) website are encouraged to have a say in the development of the organisation's new-look website. FSANZ is currently in the process of designing a new website and updating web content in preparation for the new site, which is expected to be launched in late 2012. To provide your thoughts and comments you can complete a [short survey](#).

New user guide helps interpret supplemented food rules

MAF has updated its user guide for the New Zealand Supplemented Food Standard, aimed at helping manufacturers and suppliers of food-type dietary supplements – known as “supplemented foods” – interpret the rules that govern the products they make and sell.

“There have been no changes to the Standard itself: we've simply made the guide more user-friendly,” MAF food standards senior adviser Sally Jones says.

The user guide is intended to assist manufacturers, importers, exporters, retailers, consultants and Food Act Officers to interpret and apply the requirements of the Supplemented Food Standard, which came into force on 31 March 2010.

The Standard relates to products that are represented as foods that have a substance or substances added to them, or that have been modified in some way to perform a function in the body beyond basic nutritive requirements.

Introducing updated regulation for these products brought them into line with what is generally expected of all foods. Supplemented foods must also meet some Food Standards Code requirements such as having a nutrition information panel, allergen labelling, mandatory use of English and warning labels for substances that have associated risks, such as caffeine.

The dietary supplements that remain in the Dietary Supplements Regulations 1985 are those that come in controlled dose form such as pills and capsules. These continue to be administered by the Ministry of Health.

“We know from feedback that it's not always clear-cut for businesses to establish whether or not a product is a supplemented food – even with the help of a guide,” Sally says. “We are confident this new version will make it easier to determine where a product fits in the framework, but businesses can always contact us if they need additional help to decide which rules apply to their products.”

The Standard includes a two-year transition period for manufacturers and suppliers to comply with the new rules. This finishes on 31 March 2012, at which time all supplemented food must comply with Part 1 of the Supplemented Food Standard.

The updated user guide is available [online](#).

