Agreed Outline and Content

2009 New Zealand Total Diet Study

Introduction:

This document presents the final outline and content for the 2009 New Zealand Total Diet Study (NZTDS) being undertaken by the New Zealand Food Safety Authority (NZFSA). This content was agreed following consideration of the comments received from interested parties on the proposed outline for the 2009 NZTDS published 30 June 2008.

The 2009 NZTDS is the second to be undertaken by NZFSA and will follow a similar design to the 2003/04 NZTDS. It will again focus on the assessment of dietary exposure to chemical residues, contaminant elements and selected nutrients, from representative foods, across the average diet of different age-sex groups within the New Zealand population. Foods will be prepared as for consumption (i.e. banana, peeled; meat, cooked) prior to analysis.

The 2009 NZTDS will sample 123 foods over four sampling rounds during the calendar year 2009. The foods will be analysed for about 260 agricultural compounds; the contaminant elements arsenic, cadmium, lead, and mercury (total and methyl); and the nutrient elements iodine, selenium and sodium. Results for each sampling round will be made available as soon as practical after the analysis for each round is completed. Dietary exposure assessments for a range of age-sex population groups will be estimated.

Goals:

The goals for the 2009 NZTDS are:

- formulate in consultation with interested parties the design and content of the NZTDS;
- estimate dietary exposure for selected chemical residues, contaminants and nutrient elements in the New Zealand food supply, compare this with internationally recognised acceptable exposures or recommended levels, and identify trends in New Zealand over time;
- compare dietary exposure estimates with those in other countries, where comparable data is available;
- ensure that the outcomes of the NZTDS are complementary with data on chemical residues, contaminants and nutrient elements generated from other sources in New Zealand;

- where appropriate, provide data on selected chemical residues, contaminants and nutrient elements for incorporation into other databases including the World Health Organization (WHO) Global Environmental Monitoring System (GEMS) and the New Zealand Food Composition Database; and
- communicate findings to interested parties in a timely and transparent manner.

Time table (by calendar year):

The 2009 NZTDS will be undertaken on the following timetable.

2008 Planning and contact with interested stakeholders
Pre-testing of procedures, as necessary
Update of Food List
Publication of analysis results following each sampling round

2009 Collection of food samples over four sampling rounds
Commencement of analysis of samples

2010 Completion of analysis of samples Simulated diets completed
Dietary exposures estimated
Final Report prepared and peer reviewed
Publication of results – initial release at 2010 NZFSA conference

Response to proposal:

On 30 June 2008 NZFSA circulated a proposal for the 2009 NZTDS to interested parties and also posted the proposal on the NZTDS website. Ten responses to the proposal were received. All were supportive of the proposal in general.

Some respondents made suggestions for inclusion of specific foods on the food list, in many instances however the food suggested was already included within a food type on the list, e.g. powered fruit drinks included within 'fruit drink'. One respondent suggested the inclusion of breast milk, using information on the presence of contaminants or residues that are available from other studies to calculate the dietary exposure for a 6-12 month breast fed infant (as a new population group). However, breast milk will not be collected as part of the NZTDS). Changes made to the food list are discussed below.

Several respondents commented on the compounds or elements for which the foods would be tested, especially with respect to folic acid, fluoride, and bisphenol A. The reasons for not including analysis for folic acid were addressed in the proposal and this compound will not be tested for in the 2009 NZTDS. NZFSA did include fluoride analysis in the request for tender for the laboratory analytical services, however no tender was offered for this element. We also note that the Ministry of Health is currently completing analytical research on fluoride content of infant formula. Given the apparent unavailability in New Zealand of a test for fluoride, the current work being undertaken by the Ministry of Health, and budget constraints preventing going overseas for any analysis, NZFSA will not include any analysis for fluoride in the 2009 NZTDS.

In respect of the possible inclusion of bisphenol A, this compound is associated with either the packaging in which food is processed or sold (e.g. plastic or plastic lined), or the container in which food is prepared (e.g. micro waved / heated in plastic). Analysis for bisphenol A would therefore involve preparation of the food in such a way as to allow the compound to enter the food – this is contrary to the purpose of a TDS which is to identify what is in the food. TDS food samples are prepared ready for consumption with particular care to ensure that the sample is not contaminated by the preparation method. Further, those foods used in normal preparation, such as cooking oil or water, are analysed separately so that the contribution they make to dietary exposure can be accurately estimated. Identifying compounds that can be introduced through the utensils or containers used in cooking/heating a food, or by the particular process (e.g. microwave, stove top, BBQ/open fire) would involve separate preparation and analysis for each potential food/container/preparation method combination and would have significant resource/cost implications given the number of foods involved in a TDS. Analysis for bisphenol A is therefore considered to be more appropriate for a separate study if exposure to this compound is to be investigated.

Several respondents commented on the question NZFSA asked in respect of using the data from the 1997/98 Adult Nutrition Survey when estimating dietary exposures, rather than wait for the data from the 2008 Adult Nutrition Survey to become available. Of those who commented, only one suggested that the 2009 NZTDS be delayed; all others supported using the 1997/98 data and revising the dietary exposure estimates when the updated data becomes available. NZFSA will proceed with the 2009 NZTDS on the current timeline (as set out above).

Other matters raised by respondents were the inclusion of: a vegetarian and an older age group in the dietary exposure estimates, traditional Maori foods, and more ethnic foods. A vegetarian female was included in the 1997/98 NZTDS and no significant variation of dietary exposure from that of a female eating a mixed diet was identified. Information relating to changing dietary intakes, be it for a vegetarian or an older age group, will need to come from a national nutrition survey, unfortunately no such national information is currently available. The inclusion of traditional Maori foods was discussed in the proposal. It was noted that currently available information indicates

that, for the average consumer, traditional Maori foods are eaten irregularly or only on special occasions.

Food List:

The Food list for the 2009 NZTDS will comprise 123 foods. The foods will continue to be divided into Regional and National foods. Regional foods being those that can be expected to demonstrate variation in residue, contaminant or nutrient level depending on the location in which the food is produced. National foods are not expected to demonstrate such regional variation and be uniform throughout New Zealand.

The proposal document indicated NZFSA's original intention was to review the 2003/04 Food List using expert advice and current retail sale data to identify any significant changes, unfortunately due to staff changes it was not possible to undertake this review in depth. Using this limited review and following consideration of the comments received, NZFSA has decided that the Food List for the 2009 NZTDS will be the same as the 2003/04 NZTDS food list with the following changes:

- the addition of an Indian dish to the Takeaway Foods group in recognition that these products are widely available in supermarkets as well as from a range of takeaway outlets and ethnic restaurants, this will also bring in herbs, spices etc that would otherwise not be captured in the analyses;

- reassigning 'wheat biscuit cereal' (which includes Sanitarium Weetbix and other brands of biscuit-type breakfast cereals) as a Regional food instead of a National food. This change was made in recognition that Sanitarium Weetbix is manufactured in two factories one in Auckland (using mainly imported grain) and one in Christchurch (which sources the majority of its grain from the South Island). Grain products are a significant contributor to selenium intake and previous NZTDSs and other studies have noted the difference between North Island and South Island intakes due to the different grain sources used in bread manufacturing. Given that Weetbix has a significant market share it is possible that the levels of selenium in this product could affect the dietary exposure estimates; and

- tap water and bottled water are now separate foods, this will mean that the use of tap water to make up infant formula and powered drinks can be included in the dietary exposure assessment as well as allowing for bottled water to be seen as a separate component of the diet for other age groups.

The full food list is attached as Appendix one.

Sample size, collection and preparation:

The NZTDS aims to estimate exposure to specified chemicals and chemical compounds as a result of food consumption. Foods are therefore analyses on an 'as consumed' basis; meats are cooked, banana peeled etc as part of the sample preparation prior to being sent for laboratory analysis. This will continue to be the practice for the 2009 NZTDS. (Other NZFSA monitoring and surveillance programmes look at foods at the point of import or immediately after harvest or processing).

Foods sampled for the NZTDS are made up of Regional foods (collected in four locations around New Zealand) and National foods collected from one location. Regional foods will be sampled in Auckland, Napier, Christchurch and Dunedin. These locations are the same as for the last three NZTDSs. Each region will sample the same foods and the samples from each region will be kept separate for analysis. National foods will be sampled in Christchurch as this is where the sample preparation laboratory is located, four nationally available brands will be sampled for each food.

Sampling will occur over five or six weeks in four sampling grounds during the 2009 calendar year. There will be two sampling rounds for Regional foods and two for National foods, meaning each food will be sampled twice so that seasonal variation can be captured. Sampling for Regional foods will be undertaken commencing in January and July; and for National foods commencing April and November.

Analytes:

The 2009 NZTDS will analyse the foods sampled as follows:

- Agricultural Compound Residues – two screens:
- Pesticide multi-residue screen, and
- Dithiocarbamate screen (analysed as CS2);
- Nutrient Elements: Iodine and Selenium; and
- Contaminant Elements: Arsenic; Lead; Cadmium; Mercury.

These are the NZTDS core analytes, which it was agreed in 2002 would be included in all future NZTDSs, unless a strategic decision was made otherwise.

In addition the 2009 NZTDS will analysis the foods sampled for:

- Sodium;

- Moisture – so that the results of the analysis can be included in the New Zealand Food Composition Database; and
- Methyl mercury – for the various seafoods samples and also infant formula.

A list of the specific compounds included in the two agricultural compound residue screens is attached as Appendix 2. The specific compounds included in the screen may vary if improved technology becomes available during the study.

The expected combination of foods and tests for each food is attached as Appendix 3.

Population Groups:

The 2009 NZTDS will estimate dietary exposure for the following eight population groups:

- Adult Male 25+ years
- Adult Female 25+ years
- Young Male 19-24 years
- Adolescent Male 11-14 years
- Adolescent Female 11-14 years
- Child 5-6 years
- Young Child 1-3 years
- Infant 6-12 months

NZFSA is still considering the possibility of estimating dietary exposures for other population groups, however a final decision will depend on the availability of sufficiently representative consumption data.

Simulated diets / dietary exposures:

The 2009 NZTDS will estimate dietary exposures for each of the population groups identified above based on a simulated two week diet for each group, except that the adolescent 11-14 years male and adolescent 11-14 years female. These will be derived using a single diet, with 100% being used for the adolescent male and a lesser proportion used for the adolescent female.

All the simulated diets will be made up using foods from the Food List with quantities and energy intakes based on the data from the 1997/98 Adult National Nutrition Survey, the 2002 National

Children's Nutrition Survey; and a number of smaller surveys of infant and toddler consumption patterns.

Reporting

Once all results are available for each sampling round, the results of all analyses for each food sampled and each test undertaken will be compiled into a report and published on the NZFSA website.

A final report on the dietary exposure estimates will be prepared once all the analytical results are available. This report will be internationally peer-reviewed. It is anticipated that the initial release of the final results will be available at the 2010 NZFSA Conference, including a summary document of the final report. Copies of the full final report are expected to be available shortly thereafter.

Follow–up of unusual or unexpected results

NZFSA will review any analytical results that are unusual or unexpected to determine if follow-up action is appropriate.

Appendix 1 Food List

Food (123 foods)	Type		Type
Grains (17)			
Biscuits, chocolate	National	Muesli	National
Biscuits, cracker	National	Muffin	Regional
Biscuits, plain sweet	National	Noodles, instant	National
Bran flake cereal, mixed	National	Oats, rolled	National
Bread, mixed grain, sliced	Regional	Pasta, dried	National
Bread, wheatmeal, sliced	Regional	Rice, white	National
Bread, white, sliced	Regional	Spaghetti in sauce, canned	National
Cake, plain	Regional	Wheat biscuit cereal	Regional
Cornflakes	National		
Dairy products (8)			
Butter	National	Milk, up to 0.5% fat (Trim)	Regional
Cheese	National	Milk, 3.25% fat	Regional
Cream	Regional	Milk, flavoured	Regional
Ice-cream	National	Yoghurt	National
Oils(3)			
Margarine	National	Salad dressing	National
Oil	National		
Chicken, eggs, fish, and meat (13)			
Bacon	Regional	Fish, fresh	Regional
Beef, mince	Regional	Ham	Regional

Beef, rump	Regional	Lamb/mutton	Regional
Beef, corned	Regional	Pork chop	Regional
Chicken	National	Sausages	Regional
Egg	Regional	Soup, chicken	National
Fish, canned	National		
Vegetables(25)			
Beans	National	Mushrooms	Regional
Beans, baked, canned	National	Onions	Regional
Beetroot, canned	National	Peas	National
Broccoli/Cauliflower	Regional	Potatoes, peeled	Regional
Cabbage	Regional	Potatoes with skin	Regional
Capsicum	Regional	Potato crisps	National
Carrots	Regional	Pumpkin	Regional
Celery	Regional	Silverbeet	Regional
Corn, canned	National	Taro	Regional
Courgette	Regional	Tomato	Regional
Cucumber	Regional	Tomatoes in juice	National
Kumara	Regional	Tomato sauce	National
Lettuce	Regional		
Fruits(17)			
Apples	Regional	Oranges	Regional
Apple-based juice	National	Orange juice	National
Apricots, canned	National	Pears	Regional
Avocado	Regional	Prunes	National
Bananas	National	Peaches, canned	National
Grapes	Regional	Pineapple, canned	National
Kiwifruit	Regional	Raisins/Sultanas	National
Melon	Regional	Strawberries	Regional

Nectarines	Regional		
Spreads and sweets(7)			
Chocolate, plain milk	National	Snack bars	National
Confectionery	National	Sugar	National
Honey	National	Yeast extract	National
Jam	National		
Alcohol (3)			
Beer	National	Wine, still white	National
Wine, still red	National		
Take-aways(8)			
Chicken takeaway	Regional	Indian dish	Regional
Chinese dish	Regional	Meat pie	Regional
Fish in batter	Regional	Pizza	Regional
Hamburger, plain	Regional	Potato, hot chips	Regional
Nuts(2)			
Peanut butter	National	Peanuts, whole	National
Beverages(10)			
Caffeinated beverage	National	Fruit drink	National
Carbonated drink	National	Soy milk	National
Chocolate beverage	National	Tea	National
Coffee, beans/ground	Regional	Water, bottled	Regional
Coffee instant	National	Water, tap/town supply	Regional
Additional meat and shellfish(3)			
Lamb's liver	Regional	Oysters	Regional
Mussels	Regional		
Children's foods(3)			
Dairy dessert	National	Snacks, flavoured	National
Fish fingers	National		

Infant foods(4)			
Infant and follow-on formula	National	Infant weaning food, custard, fruit	National
Infant weaning food, cereal based	National	Infant weaning food, savoury meat/veg	National

Appendix 2 Agricultural Compounds included in the gas chromatography mass spectrometry screen

Agricultural Compound	**Agricultural Compound**
2,4'-DDD	flutriafol
2,4'-DDE	fluvalinate
2,4'-DDT	Folpet
4,4'-DDD	fonofos
4,4'-DDE	furalaxyl
4,4'-DDT	furathiocarb
Acephate	gamma-BHC (Lindane)
acetochlor	halfenprox
acrinathrin	haloxyfop-methyl
Alachlor	heptachlor
Aldrin	heptachlor epoxide
alpha-BHC	heptenophos
Atrazine	hexachlorobenzene
atrazine-desethyl	hexaconazole
atrazine-desisopropyl	hexazinone
azaconazole	hexythiazox
Azinphos-methyl	imazalil
azoxystrobin	indoxacarb

benalaxyl
bendiocarb
benodanil
benoxacor
beta-BHC
Bifenox
Bifenthrin
Bioresmethrin
bitertanol
Bromacil
bromophos-ethyl
bromopropylate
bupirimate
buprofezin
Butachlor
butamifos
cadusafos
Captafol
Captan
Carbaryl
carbofenothion
carbofuran
Carboxin
chlorfenapyr
chlorfenvinphos
chlorfluazuron
chlorobenzilate
chlorothalonil
iodofenphos
iprobenfos
iprodione
isazophos
isofenphos
isoprocarb
kresoxim-methyl
leptophos
linuron
malathion
mepronil
metalaxyl
methacrifos
methamidophos
methidathion
methiocarb
methoxychlor
metolachlor
metribuzin
mevinphos
molinate
monocrotophos
myclobutanil
naled
napropamide
nitrofen
nitrothal-Isopropyl
norflurazon

chlorpropham
chlorpyrifos
chlorpyrifos-methyl
chlorthal-dimethyl
chlortoluron
chlozolinate
cis-chlordane
clomazone
coumaphos
cyanazine
cyanophos
cyfluthrin
cyhalothrin
cypermethrin
cyproconazole
cyprodinil
delta-BHC
deltamethrin
demeton-S-methyl
diazinon
dichlobenil
dichlofenthion
dichlofluanid
dichloran
dichlorvos
dicofol
dicrotophos
dieldrin
omethoate
oxadiazon
oxadixyl
oxychlordane
oxyfluorfen
paclobutrazol
parathion-ethyl
parathion-methyl
penconazole
pencyuron
pendimethalin
permethrin
phenthoate
phorate
phosalone
phosmet
phosphamidon
piperonyl-butoxide
pirimicarb
pirimiphos-methyl
prochloraz
procymidone
profenofos
prometryn
propachlor
propanil
propaphos
propargite

difenoconazole
diflufenican
dimethenamid
dimethoate
dimethomorph
dimethylvinphos
dinocap
dioxabenzofos
diphenamid
diphenylamine
disulfoton
diuron
edifenphos
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
endrin ketone
EPN
epoxiconazole
EPTC
esfenvalerate
esprocarb
Ethion
ethofumesate
ethoprophos
ethoxyquin
propazine
propetamphos
Propham
propiconazole
Propoxur
propyzamide
prothiofos
pyraclofos
pyrazophos
pyrazoxyfen
Pyrethrin
Pyrifenox
pyrimethanil
pyriproxyfen
quinalphos
quintozene
quizalofop-methyl
sethoxydim
Simazine
Simetryn
sulfentrazone
Sulfotep
tebuconazole
tebufenpyrad
Tefluthrin
Terbacil
Terbufos
terbumeton

etridiazole	terbuthylazine
etrimfos	terbuthylazine-desethyl
famphur	Terbutryn
fenamiphos	terbuthylazine-desethyl
fenarimol	tetrachlorvinphos
fenchlorphos	Tetradifon
fenitrothion	thenylchlor
fenobucarb	thiobencarb
fenoxaprop-ethyl	thiometon
fenpiclonil	triadimenol
fenpropathrin	tolclofos-methyl
fenpropimorph	tolylfluanid
fensulfothion	trans-chlordane
fenthion	triadimefon
fenvalerate	tri-allate
fluazifop-butyl	triazophos
flucythrinate	trifloxystrobin
fludioxonil	Trifluralin
fluometuron	vinclozolin
flusilazole	tetrachlorvinphos

Dithiocarbamates - expressed as CS2	
Ferbam	Propineb
Mancozeb	Thiram
Maneb	Zineb
Metiram	Ziram
Nabam	

Appendix 3 Food / Analyte Combinations

R = Regional food

N = National food

MR = multi residue screen

DTC = dithiocarbamate fungicides

Elements = arsenic, cadmium, iodine, lead, and sodium.

NA = food not analysed for this analyte

The 'Total No of samples' relates to the sample for analysis and is derived from:

- Four (4) brands of each National food sampled in each of two seasons;
- Each Regional food sampled in four (4) regions in each of two seasons

Food (123 foods)	Type	Total No. of samples	MR	DTC	Elements & Moisture	Mercury	Methyl mercury	*Selenium*
Grains (17)								
Biscuits, chocolate	N	8	√	NA	√	NA	NA	√
Biscuits, cracker	N	8	√	NA	√	NA	NA	√
Biscuits, plain sweet	N	8	√	NA	√	NA	NA	√
Bran flake cereal, mixed	N	8	√	NA	√	NA	NA	√
Bread, mixed grain, sliced	R	8	√	NA	√	NA	NA	√
Bread, wheatmeal, sliced	R	8	√	NA	√	NA	NA	√
Bread, white, sliced	R	8	√	NA	√	NA	NA	√
Cake, plain	R	8	√	NA	√	NA	NA	√

Cornflakes	N	8	√	NA	√	NA	NA	√
Muesli	N	8	√	NA	√	NA	NA	√
Muffin	R	8	√	NA	√	NA	NA	√
Noodles, instant	N	8	√	NA	√	NA	NA	√
Oats, rolled	N	8	√	NA	√	NA	NA	√
Pasta, dried	N	8	√	NA	√	NA	NA	√
Rice, white	N	8	√	NA	√	NA	NA	√
Spaghetti in sauce, canned	N	8	√	NA	√	NA	NA	√
Wheat biscuit cereal	R	8	√	NA	√	NA	NA	√
Dairy products (8)								
Butter	N	8	√	NA	√	NA	NA	√
Cheese	N	8	√	NA	√	NA	NA	√
Cream	R	8	√	NA	√	NA	NA	√
Ice-cream	N	8	√	NA	√	NA	NA	√
Milk, up to 0.5% fat (Trim)	R	8	√	NA	√	√	NA	√
Milk, 3.25% fat	R	8	√	NA	√	√	NA	√
Milk, flavoured	R	8	√	NA	√	√	NA	√
Yoghurt	N	8	√	NA	√	√	NA	√
Oils(3)								
Margarine	N	8	√	NA	√	NA	NA	NA
Oil	N	8	√	NA	√	NA	NA	NA

Salad dressing	N	8	√	NA	√	NA	NA	NA
Chicken, eggs, fish, and meat (13)								
Bacon	R	8	√	NA	√	√	NA	√
Beef, mince	R	8	√	NA	√	√	NA	√
Beef, rump	R	8	√	NA	√	√	NA	√
Beef, corned	R	8	√	NA	√	√	NA	√
Chicken	N	8	√	NA	√	√	NA	√
Egg	R	8	√	NA	√	√	NA	√
Fish, canned	N	8	√	NA	√	√	√	√
Fish, fresh	R	8	√	NA	√	√	√	√
Ham	R	8	√	NA	√	√	NA	√
Lamb/mutton	R	8	√	NA	√	√	NA	√
Pork chop	R	8	√	NA	√	√	NA	√
Sausages	R	8	√	NA	√	√	NA	√
Soup, chicken	N	8	√	NA	√	√	NA	√
Vegetables (25)								
Beans	N	8	√	√	√	√	NA	√
Beans, baked, canned	N	8	√	√	√	√	NA	√
Beetroot, canned	N	8	√	√	√	√	NA	√
Broccoli/Cauliflower	R	8	√	√	√	√	NA	√
Cabbage	R	8	√	√	√	√	NA	√
Capsicum	R	8	√	√	√	√	NA	√

Carrots	R	8	√	√	√	√	NA	√
Celery	R	8	√	√	√	√	NA	√
Corn, canned	N	8	√	√	√	√	NA	√
Courgette	R	8	√	√	√	√	NA	√
Cucumber	R	8	√	√	√	√	NA	√
Kumara	R	8	√	√	√	√	NA	√
Lettuce	R	8	√	√	√	√	NA	√
Mushrooms	R	8	√	√	√	√	NA	√
Onions	R	8	√	√	√	√	NA	√
Peas	N	8	√	√	√	√	NA	√
Potatoes, peeled	R	8	√	√	√	√	NA	√
Potatoes with skin	R	8	√	√	√	√	NA	√
Potato crisps	N	8	√	√	√	√	NA	√
Pumpkin	R	8	√	√	√	√	NA	√
Silverbeet	R	8	√	√	√	√	NA	√
Taro	R	8	√	√	√	√	NA	√
Tomato	R	8	√	√	√	√	NA	√
Tomatoes in juice	N	8	√	√	√	√	NA	√
Tomato sauce	N	8	√	√	√	√	NA	√
Fruits(17)								
Apples	R	8	√	√	√	√	NA	√
Apple-based juice	N	8	√	√	√	√	NA	√
Apricots, canned	N	8	√	√	√	√	NA	√

Avocado	R	8	√	√	√	√	NA	√
Bananas	N	8	√	√	√	√	NA	√
Grapes	R	8	√	√	√	√	NA	√
Kiwifruit	R	8	√	√	√	√	NA	√
Melon	R	8	√	√	√	√	NA	√
Nectarines	R	8	√	√	√	√	NA	√
Oranges	R	8	√	√	√	√	NA	√
Orange juice	N	8	√	√	√	√	NA	√
Pears	R	8	√	√	√	√	NA	√
Prunes	N	8	√	√	√	√	NA	√
Peaches, canned	N	8	√	√	√	√	NA	√
Pineapple, canned	N	8	√	√	√	√	NA	√
Raisins/Sultanas	N	8	√	√	√	√	NA	√
Strawberries	R	8	√	√	√	√	NA	√
Spreads and sweets(7)								
Chocolate, plain milk	N	8	√	NA	√	NA	NA	√
Confectionery	N	8	√	NA	√	NA	NA	√
Honey	N	8	√	NA	√	NA	NA	√
Jam	N	8	√	NA	√	NA	NA	√
Snack bars	N	8	√	NA	√	NA	NA	√
Sugar	N	8	√	NA	√	NA	NA	√
Yeast extract	N	8	√	NA	√	NA	NA	√

Alcohol (3)								
Beer	N	8	√	NA	√	√	NA	√
Wine, still red	N	8	√	NA	√	√	NA	√
Wine, still white	N	8	√	NA	√	√	NA	√
Take-aways(8)								
Chicken takeaway	R	8	√	NA	√	√	NA	√
Chinese dish	R	8	√	NA	√	√	NA	√
Fish in batter	R	8	√	NA	√	√	√	√
Hamburger, plain	R	8	√	NA	√	√	NA	√
Indian dish	R	8	√	NA	√	√	NA	√
Meat pie	R	8	√	NA	√	√	NA	√
Pizza	R	8	√	NA	√	√	NA	√
Potato, hot chips	R	8	√	NA	√	√	NA	√
Nuts(2)								
Peanut butter	N	8	√	NA	√	NA	NA	√
Peanuts, whole	N	8	√	NA	√	NA	NA	√
Beverages(10)								
Caffeinated beverage	N	8	√	NA	√	√	NA	√
Carbonated drink	N	8	√	NA	√	√	NA	√
Chocolate beverage	N	8	√	NA	√	√	NA	√
Coffee, beans/ground	R	8	√	NA	√	√	NA	√

Coffee instant	N	8	√	NA	√	√	NA	√
Fruit drink	N	8	√	NA	√	√	NA	√
Soy milk	N	8	√	NA	√	√	NA	√
Tea	N	8	√	NA	√	√	NA	√
Water, bottled	R	8	√	NA	√	√	NA	√
Water, tap/town supply	R	8	√	NA	√	√	NA	√
Additional meat and shellfish(3)								
Lamb's liver	R	8	√	NA	√	√	NA	√
Mussels	R	8	√	NA	√	√	√	√
Oysters	R	8	√	NA	√	√	√	√
Children's foods(3)								
Dairy dessert	N	8	√	NA	√	√	NA	√
Fish fingers	N	8	√	NA	√	√	√	√
Snacks, flavoured	N	8	√	NA	√	NA	NA	√
Infant foods(4)								
Infant and follow-on formula	N	8	√	√	√	√	√	√
Infant weaning food, cereal based	N	8	√	√	√	√	NA	√
Infant weaning food, custard, fruit	N	8	√	√	√	√	NA	√
Infant weaning food, savoury meat/veg	N	8	√	√	√	√	NA	√