



2009 New Zealand Total Diet Study:

Simulated Diet Review

NZFSA Information Report

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Executive Summary

The primary focus of the New Zealand Total Diet Study (NZTDS) is to assess the exposure of age-sex groups to chemical residues, contaminant elements and selected nutrients. The development of simulated diets for different age-sex groups within the New Zealand population is required so that dietary exposures can be calculated. Given all the key features of the 2009 NZTDS are closely aligned to the 2003/04 NZTDS the simulated diets developed for the 2003/04 NZTDS were recommended for use for the 2009 NZTDS.

NZFSA undertook a limited review of the simulated diets for infants and preschool children in preparation for their use in the 2009 NZTDS. The primary objective of this review was to ensure that the existing simulated diets reasonably reflect current food consumption.

For infants and preschool children there is no nationally representative food consumption data. In terms of reviewing the simulated diet, NZFSA considered the baseline food consumption data from one recent regional New Zealand survey of children aged less than 3 years.

As a result of this review, NZFSA recommends that it largely retain the simulated diets constructed for the 2003/04 NZTDS for the 2009 NZTDS with one caveat. In the 2009 NZTDS there have been two main changes to the food list – the addition of an Indian takeaway dish and the identification of bottled water as a separate food. These additions have resulted in minor amendments to some of the 2003/04 simulated diets and an associated consequent change in the average micronutrient content when the amended diets are compared to the 1997 National Nutrition Survey data.

NZFSA will consider revising the 2009 NZTDS simulated diets for adults upon release of the Ministry of Health's Adult Nutrition Survey 2008/09 in 2011. Future studies which collect nationally representative food consumption data for infants and preschool children would better assist NZFSA in developing robust simulated diets for these groups.

1 Introduction

The New Zealand Food Safety Authority (NZFSA) has commissioned a seventh New Zealand Total Diet Study (NZTDS). As part of this process, NZFSA has sought feedback from interested stakeholders on the planning for this study. Selected stakeholders have asked NZFSA to consider whether the proposed simulated diets for NZTDS 2009 are reflective of current food consumption.

The development of typical diets or food consumption are required for the NZTDS to enable an appropriate assessment of the exposure of age-sex groups to agricultural compounds, residues, contaminant elements and selected nutrients. These 'simulated' diets are created to represent an average New Zealand dietary pattern using a representative list of approximately 120 foods (the food list). The last update of these simulated diets occurred during the 2003/04 NZTDS (1,2). This update used data from the National Nutrition Survey (NNS97) of adults 15+ years and the Children's Nutrition Survey (CNS02) of children aged 5-14 years (3,4).

The Ministry of Health is currently updating its food consumption information for adults through the 2008/09 Adult Nutrition Survey (ANS08). NZFSA had intended to use the information in the assessment of the simulated diets for adults but unfortunately the timeline for the ANS08 has slipped and the data are not yet available. The CNS02 remains the most comprehensive and up-to-date source of food consumption data for children.

With this information in mind, NZFSA has undertaken a limited review of the simulated diets that are not affected by the CNS02 and pending ANS08 data. The primary objective of this review is to determine whether the simulated diets for infants and preschool children reasonably reflect current food consumption, and to amend these diets as required.

A secondary objective for NZFSA was to give consideration to the following matters raised by interested stakeholders:

- the development of one simulated diet for adolescents 11-14 years of age with 100 percent exposure from the simulated diets for the adolescent male and a lesser percentage for the adolescent female;
- the development of a simulated diet for Māori New Zealanders;
- the addition of an Indian takeaway dish to the Takeaway Foods group;
- the separation of tap water and bottled water in the food list; and
- adjustment of the simulated diets to incorporate the new foods added to the food list.

2 Methodology

2.1 Infant and preschool children's diets

To find national studies of food consumption for New Zealand infants and preschool children, a literature search of citation databases was undertaken. Search terms included 'children', 'infants', 'New Zealand', 'dietary intake', 'food intake', 'diet records', and 'diet recall'. In addition, NZFSA sought input from New Zealand researchers specialising in infants and young children's nutrition. Studies were considered by NZFSA if they included infants and/or preschool children aged less than 5 years, acknowledged data collection methods and either reported baseline food consumption data in grams or millilitres per day (g/day or ml/day) and made this information easily accessible to NZFSA. From this search, six citations were found and two met all inclusion criteria (5,6).

There have been no national studies of food consumption in infants or preschool children. The Wall *et al.* study included collection of two-day weighed food records for 77 infants aged 6-11 months (5). After initial analysis, and consideration of the study parameters, NZFSA made the decision not to undertake a full analysis of the food consumption data.

As such, NZFSA made the decision to compare the 2003/04 NZTDS simulated diet for children aged 1-3 years with a study by Szymlek-Gay *et al.* (6, refer Appendix 1 for synopsis) to see if there were any changes in food consumption levels, and hence a requirement to amend the 2003/04 simulated diet.

The raw food consumption data from the Szymlek-Gay *et al.* study was requested from the primary author (6). From this data NZFSA produced a list of 1078 foods that were reported as eaten by the study participants. This list was condensed and similar foods were composited to match the 2009 NZTDS food list of 123 foods to allow direct comparison of food consumption.

NZFSA then focused its assessment of food consumption on food categories consumed by 50 percent or more of the study population. This produced a more refined list of 13 foods (refer Table 1). The mean consumption levels (g/day or ml/day) of these foods were then compared with the level assigned to the food in the 2003/04 NZTDS to see if there were significant differences in daily food consumption values.

2.2 Adolescent's diets

As part of the planning for the 2009 NZTDS, NZFSA decided to give consideration to developing only one simulated diet for adolescents 11-14 years of age, with 100 percent exposure from the simulated diet for the adolescent male and a lesser percentage for the adolescent female. The amount of food assigned per 14 day period for the 2003/04 NZTDS simulated diets of the 11-14 year adolescent male and female was compared as these diets were developed using the most recent national dietary consumption data (4). The purpose of the comparison was to see if adolescent females generally consume less food than their male

counterparts and whether this possible decrease in consumption is consistent across the majority of foods consumed, or whether it is for specific foods only.

2.3 Māori population

The NNS97 and the CNS02 collected consumption data for Māori (3, 4). NZFSA used the Food Standards Australia New Zealand (FSANZ) Dietary Modelling of Nutritional Data computer programme (DIAMOND) to calculate mean dietary consumption levels (g/day) for several food categories for Māori with that of other age-sex groups. The purpose of this comparison was to see if differences in mean consumption levels existed. This data was then analysed to see if NZFSA had sufficient information to comment on the statistical significance of the results and whether consideration should be given to the development of simulated diets for average Māori consumers across the NZTDS age-sex groups.

2.4 Water consumption

NZFSA is not aware of any nationally representative consumption data that distinguishes between the consumption of tap and bottled water. The raw data from the Szymlek-Gay *et al.* study showed that 1.3 percent (n=3) of study participants recorded consuming bottled water during the three-day weighed dietary consumption period (6). The New Zealand Juice and Beverage Association estimates that New Zealanders' consumption of bottled water is between 12 and 14 litres per person per year (Personal communication). That is around 36 mls per person per day (7).

In the absence of nationally representative data on the consumption of tap versus bottled water by the NZTDS age-sex groups, it is recommended that for the purposes of the 2009 NZTDS, bottled water represent 13 percent of total water consumption for all age-sex groups (refer Table 2). The average bottled water intake per person (i.e. 36 mls per person per day) was adjusted by the total water consumption for each age-sex group. As calculations could not be corrected for the population size within each age-sex group, this is likely to be a biased estimate.

2.5 Takeaway consumption

In recognition of the increased availability of Indian food in supermarkets, takeaway outlets and ethnic restaurants since the previous NZTDS, NZFSA has added an Indian takeaway dish to the Takeaway Foods group in the 2009 NZTDS food List.

Due to insufficient new consumption data on Indian food, in terms of the amount of food consumed and the age of the consumer, it was not possible to establish consumption of an Indian takeaway dish as a substitute for any of the other foods in the Takeaway Foods group. Therefore for the purposes of the 2009 simulated diets, the assumption has been made that the following age-sex groups are consuming the Indian takeaway dish in addition to the simulated diets prepared for the 2003/04 NZTDS: 11-14 year old females, 11-14 year

old males, 19-24 year old males, 25+ year old females and 25+ year old males. For infant and child groups 6-12 months, 1-3 year olds and 5-6 years, the Indian takeaway dish has not been added to their simulated diet. The assumption has also been made that the quantity of Indian takeaway dish consumed is the same as that assigned to the Chinese takeaway dish in the 2003/04 NZTDS simulated diets.

The nutrient composition of the Indian takeaway dish was calculated by using data from the New Zealand Food Composition Tables for Indian Takeaways and taking a mean value across three different dishes (refer Table 3).

3 Results

3.1 Infant and preschools children's diets

For preschool children the mean energy level of the 1-3 year old simulated diet used for the 2003/04 NZTDS was 5.2 MJ/day. This level differs to the mean baseline energy intake of participants in the Syzmlek-Gay *et al.* study which was 3.9 MJ/day (6). Of the 13 foods highlighted as being consumed by 50 percent or more of the Syzmlek-Gay *et al.* study population, NZFSA viewed only one as being notably different. This food was Milk, 3.25% fat. The 2003/04 NZTDS simulated diet for 1-3 years assigned an intake level of 244 ml/day. This is 40 percent (163 mls) lower than the value reported by Syzmlek-Gay *et al.* (407 ml/day) (6).

3.2 Adolescent's diets

Whilst the total energy intakes of the simulated diets for the 2003/04 NZTDS is less for adolescent females (8.5 MJ/day) than adolescent males (10.4 MJ/day), the amount of energy consumed is not proportionately less across all individual foods. For example, in the 2003/04 NZTDS simulated diets, adolescent females are assigned 133 percent more kumara than adolescent males, however adolescent females are assigned 59 percent less fresh fish when compared to their male counterparts. Therefore we are unable to statistically derive a percentage value that would accurately reflect the differences seen in the consumption of individual foods between adolescent males and females. NZFSA has therefore decided to retain two separate diets for the adolescent age group.

Table 1. Comparison of consumption levels (g/day or ml/day) between the Syzmlek-Gay *et al.* study 2004/05 and the 2003/04 NZTDS where foods were consumed by greater than 50 percent for the Syzmlek-Gay *et al.* study population (1,6).

Food Name (as per food list)	Syzmlek-Gay <i>et al.</i> Study 2004/05			2003/04 NZTDS simulated diet	Comparison of 2003/04 NZTDS and Syzmlek-Gay <i>et al.</i> Study 2004/05	
	No. of consumers	Percentage of total study population	Mean consumption for consumers (g/day)	Daily consumption (g/day)	Difference in consumption levels (g)	Percentage change (%)
Bread, white	184	82.1%	21.0	30.4	-9.4	-31.0
Biscuits, cracker	138	61.6%	5.6	4.3	1.3	29.
Biscuits, plain	152	67.9%	8.1	11.8	-3.7	-31.3
Wheatbix	137	61.2%	14.7	15.0	-0.3	-1.9
Cheese	160	71.4%	12.1	10.4	1.8	17.3
Milk, 3.25% fat	217	96.9%	406.5	243.6	163.0	66.9
Yoghurt	149	66.5%	71.8	62.1	9.7	16.6
Margarine / table spread	163	72.8%	2.7	2.5	0.2	6.1
Carrots	122	54.5%	8.6	8.2	0.4	4.9
Potato	156	69.6%	22.3	21.4	0.9	4.1
Banana	166	74.1%	43.8	35.0	8.8	25.2
Raisins / sultanas	113	50.4%	7.0	7.1	-0.1	-0.8
Yeast extract	146	65.2%	1.5	1.8	-0.3	-18.1

3.3 Māori population

As part of the planning for the 2003/04 NZTDS, it was reported that results from the NNS97 identified a number of foods which are not in the 2003/04 NZTDS food list. These may require consideration if a diet was to be simulated for Māori (2). In addition, differences in the proportion of foods consumed from the existing food list were noted and potentially indicate that a typical diet may differ for Māori compared to the rest of the population.

When comparing the mean dietary consumption levels (g/day) of several food categories for Māori with that of the whole population for specific age groups, NZFSA did not have access to sufficient data to calculate the p-value and therefore determine the statistical significance of the differences in the proportion of food eaten.

3.4 Water consumption

Based on the assumption that bottled water represents 13 percent of total water consumption, Table 2 shows the volume of bottled and tap water assigned to the simulated diets for each age-sex group.

3.5 Takeaway consumption

Based on the premise that the Indian takeaway dish be an addition rather than a substitution to the diets of some population groups, NZFSA has calculated the amount (grams) and corresponding nutrient profile to be added to the simulated diets for each age-sex group (refer Table 3). These additions have also resulted in an associated consequent change in the average micronutrient content when the amended diets are compared to the 1997 National Nutrition Survey data.

Table 2. Amount of water (tap water and bottled water) assigned per 14 day period for the 2009 NZTDS population groups.

	25+ yrs M	25+ yrs F	19-24 yrs M	11-14 yrs M	11-14 yrs F	5-6 yrs M & F	1-3 yrs M & F	6-12 mths M & F
Total water consumption (ml) – from 2003/04 NZTDS simulated diets	3050	4150	2950	4860	4880	5180	3500	2080
Tap water (ml)	2653	3610	2566	4228	4246	4507	3045	1810
Bottled water (ml) – 13% of total water consumption	397	540	384	632	634	673	455	270

Footnote: M = Males; F = Females; Yrs = Years; Mths = Months.

Table 3. Mean nutrient levels of the Indian takeaway dish for selected population groups.

Population group	Amount of Indian takeaway dish added to the simulated diet (g)	Energy (kJ)	Protein (g)	Fat (g)	Carbohydrate (g)	Calcium (mg)	Iron (mg)
25+ yrs M	180	1413.5	21.6	24.3	8.1	59.4	4.1
25+ yrs F	180	1413.5	21.6	24.3	8.1	59.4	4.1
19-24 yrs M	200	1570.6	24.0	27.0	9.0	66.0	4.6
11-14 yrs M	120	942.4	14.4	16.2	5.4	39.6	2.8
11-14 yrs F	100	785.3	12.0	13.5	4.5	33.0	2.3

Footnote: M = Males; F = Females; Yrs = Years.

4 Discussion

In undertaking this limited review of simulated diets, NZFSA found the lack of recent nationally representative food consumption data was a limiting factor in being able to construct new simulated diets for the 2009 NZTDS.

For infants 6-12 months of age, NZFSA compared the Wall *et al.* study with the study used for the development of the 2003/04 NZTDS simulated diet for this age group (5,8). NZFSA found that the time periods for the collection of data in both studies were similar. In addition, the Wall *et al.* study had fewer participants aged between 6-12 months, and collected fewer days of food records than the Soh *et al.* study. On this basis, NZFSA made the decision not to review the simulated diet for this age group.

For preschool children 1-3 years, NZFSA analysed the baseline dietary consumption data from the Syzmlek-Gay *et al.* study (6). It is worth noting that the age range of the participants in this study was 12-20 months which differs to the age range of the NZTDS population group of 1-3 years. This discrepancy creates difficulties with trying to extrapolate data so that it is representative of the consumption of those in the NZTDS population group, and it may potentially account for the differences observed in the food consumption of the two population groups. The differences in the mean energy level between the Syzmlek-Gay *et al.* study participants (3.9 MJ/day) and that assigned to the 2003/04 NZTDS simulated diet for 1-3 years (5.2 MJ/day) is most likely also as a result of differing age ranges of the separate study populations. The 2003/04 NZTDS simulated diet for preschoolers included studies with children up to 3 years, and hence the food consumption by these children would most likely be contributing to the increased energy intake when compared to those who took part in the Syzmlek-Gay *et al.* study (6).

As there is no new food intake data since the CNS02 for children 5-14 years, NZFSA does not believe there is sufficient evidence for developing one simulated diet for adolescents 11-14 years. This decision is reinforced by the fact that CNS02 data was used for the development of the 2003/04 NZTDS simulated diets for this age group, and the decrease in energy consumed by adolescent females compared to adolescent males is not proportionately less across all individual foods.

In undertaking this review, NZFSA would like to acknowledge various limitations. This includes data gaps such as the absence of nationally representative food consumption data for children less than 5 years. It is problematic to extrapolate data from smaller regional studies particularly when the study parameters, such as the age of the participants, do not match those of the age-sex groups used in the NZTDS. Future studies which collect nationally representative consumption data for children under 5 years would assist in the development of a simulated diet that accurately represents the diets of preschool children. Such studies would allow greater certainty when calculating exposure of this population group to chemical residues, contaminant elements and selected nutrients. Further limitations include the delay in the ANS08. This has meant the 2003/04 NZTDS simulated diets for the adult population groups will be used for the 2009 NZTDS until such time as new data is available and NZFSA can consider whether it should revise the 2009 NZTDS

simulated diets based on this data. With regards to exploring the possibility of developing a simulated diet for Māori New Zealanders, NZFSA did not access the raw data from the NNS97 to be able to determine the statistical significance of differences observed in the proportion of food eaten. Therefore NZFSA is unable to comment on whether a separate diet for Māori for any of the age-sex groups is justified. For the purposes of this review, NZFSA has also made assumptions in relation to the consumption of bottled water and the Indian takeaway dish. Future NZTDSs would benefit from having quantitative consumption data to consider before new additions to the food list are accepted.

In summary, with the exception of including the new additions to the 2009 NZTDS food list in the simulated diets of some age-sex groups, NZFSA has decided to retain the simulated diets designed for the 2003/04 NZTDS. NZFSA considered new scientific evidence but felt there was insufficient justification to significantly alter the 2003/04 NZTDS simulated diets at this time but that this could be review following the release of the ANS08 data in 2011.

5 Recommendations

- There is insufficient data to significantly alter the simulated diets developed for the 2003/04 NZTDS. The addition of an Indian takeaway dish to some diets, and distinguishing between bottled and tap water is recommended to accommodate additions to the 2009 food list. The recommended simulated diets to be used in the 2009 NZTDS and the amount of each food assigned to each age group are at Appendix 2 and 3 respectively.
- NZFSA considers that it would be helpful to have nationally representative food consumption data for infants and preschool children. Such data would assist NZFSA in developing robust simulated diets for this group.
- If a decision was made to include a Māori specific diet in a NZTDS, NZFSA would need to consider the addition of new foods to the food list to capture any ethnic differences. An alternative approach would be to develop a diet that contains a similar range of foods, and consider the quantities of some foods compared to that of the general population, and whether any differences are statistically significant. This would not be considered a 'traditional Māori diet' *per se*. It has been generally agreed that traditional Māori foods are predominantly eaten on special occasions, rather than as part of the normal diet of the average Māori, and therefore these foods may not be captured as 'average' or 'typical consumptions' which form the basis of the 14 day simulated diets.
- The ANS08 data will be available in 2011 and could be useful in any further refinement of the simulated diets for adults and/or the development of new simulated diets for other age-sex groups (such as the elderly) or ethnicities if this was determined meaningful.

References

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Appendix 1: Synopsis of Szymlek-Gay et al (2009)

Reference: Szymlek-Gay EA, Ferguson EL, Heath AL, Gray AR, Gibson RS. Food-based strategies improve iron status in toddlers; A randomized controlled trial. *Am J Clin Nutr* 2009; 90(6): 1541-51.

Study Type	Randomised Controlled Trial
Outcomes	Primary: Serum ferritin levels Secondary: Food consumption
Design	<p>N = 225</p> <p>Relevant risk factors: -</p> <p>Inclusion and exclusion criteria: Participants were healthy children aged 12-20 months. Exclusion criteria were 1) had health problems likely to affect iron absorption, 2) were routinely taking medications known to interfere with iron absorption, 3) had baseline haemoglobin < 105 g/L, 4) had baseline haemoglobin < 110 g/L and serum ferritin ≤ 12 lg/L, 5) were taking supplements that contained iron, or 6) were being given iron-fortified milk; or if their parent was unwilling to 7) offer study foods to the child or 8) refrain from giving supplements that contained iron or an iron-fortified milk during the study.</p> <p>Power: 90 children per group were required to detect a reduction in the prevalence of non-anaemic suboptimal iron status, with 80% power and a $\alpha = 0.05$, which allowed for 20% attrition.</p> <p>Method of randomization: Computer-generated random assignment process based on the minimization method.</p> <p>Intervention: Assigned to 1 of 3 groups: meat group, fortified milk group, control group</p> <p>Blinding: The control group was a non-treatment control for the red meat group, and a placebo control for the fortified milk group.</p> <p>Length of follow-up: 20 week intervention period</p> <p>Completeness of follow-up: Total of 215 children completed the study, 10 (4.4% were lost to follow-up). A further 10 failed to provide the final blood sample because of unsuccessful blood sampling.</p>
Validity	<p>Is the study type appropriate for the question being asked? Yes</p> <p>Was the study population typical of patients with this disease? Yes</p> <p>Were the treatment/control groups comparable at baseline? Yes</p> <p>Was the intervention compared to placebo and/or best-accepted intervention? Placebo</p> <p>Was there compliance with the intervention? 89.4% of children in the control group and 81.4% in the fortified milk group adhered fully to the intervention and replaced all their regular milk with study milk. By comparison, just 3.4% of children consumed the recommended 2 study meat dishes per day.</p>

	<p>Was there equal intensity of observation of study and control subjects? Unclear</p> <p>Was the process of observation likely to effect the outcome? Potentially</p> <p>Intention to treat analysis? Yes</p> <p>Did conclusions about safety take into account the limited size of the study? -</p> <p>Is effectiveness proven? Only for fortified milk</p> <p>Summary: Valid</p>						
Results	<p>Quantified results:</p> <p>Serum Ferritin Levels at 20 wks (ug/L)</p> <table border="0"> <thead> <tr> <th>Control</th> <th>Red meat</th> <th>Fortified milk</th> </tr> </thead> <tbody> <tr> <td>29.9 (24.1, 37.1)</td> <td>32.8 (26.2, 41.1)</td> <td>43.5 (33.4, 56.5)*</td> </tr> </tbody> </table> <p>* Significantly different from 0 wk, $P < 0.01$.</p>	Control	Red meat	Fortified milk	29.9 (24.1, 37.1)	32.8 (26.2, 41.1)	43.5 (33.4, 56.5)*
Control	Red meat	Fortified milk					
29.9 (24.1, 37.1)	32.8 (26.2, 41.1)	43.5 (33.4, 56.5)*					
Authors' Conclusions	<p>Consumption of iron-fortified milk can increase iron stores in healthy non-anaemic toddlers, whereas increased consumption of red meat can prevent their decline.</p>						
Reviewers' Conclusions	<p>Agree with authors' conclusions.</p>						

Appendix 2: Simulated diets 2009 NZTDS

Adults

The following table compares the macronutrient content of New Zealand adults to the simulated 'typical' diets developed.

Table 1 Mean nutrient levels of the 19-24 year old males, and 25 years and older males and females, Simulated diets and the New Zealand population*

	Energy (MJ)	%En from fat	% En from CHO	% En from Protein	% En from Alcohol	Calcium (mg)	Iron (mg)
19-24 yr males							
NNS97	13.2	36	46	14	4	938	15.4
<i>Simulated 'typical' diet</i>	15.4	38.6	42.7	15.3	3.2	1107	21
25+ Male							
NNS97	11.7	35	45	16	5	901	15
<i>Simulated 'typical' diet</i>	13.3	37.8	41.5	16.5	4.2	1089	20
25+ Female							
NNS97	7.7	35	47	17	3	727	10.3
<i>Simulated 'typical' diet</i>	9.6	38.8	41.8	17.4	2	887	16

* NNS97

Table 2 Simulated Diets for 19-24 year old males and 25 years and over males and females: WEEK ONE

Monday 1	Tuesday 2	Wednesday 3	Thursday 4	Friday 5	Saturday 6	Sunday 7
Breakfast						
Bran cereal & peaches Trim milk	Weetbix with apricots, Trim milk & sugar	Cornflakes with whole milk (M), Trim (F), banana, sugar	Muesli with yoghurt	Weetbix with trim milk and sugar	Cornflakes with whole milk, nectarines (25+)	Porridge with brown sugar & trim milk
Wheatmeal toast Butter Jam	White toast Margarine Honey	Mixed grain toast Butter Vegemite	White toast Butter Honey	Wheatmeal toast Butter Jam	White toast Butter Jam	Wheatmeal toast Margarine Honey
Tea (milk and sugar) Water	Apple juice Tea (milk and sugar)	Coffee	Milk – whole Real coffee, milk & sugar	Water Tea (M)	Tea with sugar (25+) Coffee	Coffee (25+) Tea (19-24)
Lunch						
Sandwich, white bread with butter, cheese,	Sandwich – white bread (M), wheatmeal (F), with butter, cheese, ham, egg,	Instant noodles Wheatmeal bread with butter, meat pie (19-24)	Pizza & hot chips, tomato sauce	Sandwich – white (M), wholemeal (F), bread with butter, cheese, ham,	Meat pie, tomato sauce	Bacon and egg buttie, tomato sauce & butter (M), Egg sandwich (F)
Lettuce, tomato	Tomato, cucumber, lettuce	Banana		Cucumber, lettuce (25+)	Potato (M)	
Tea (25+) Orange juice (19-24)	Tea (25+) Lemonade (19-14)	Tea (milk & sugar) (25+) Coke (19-14)	Beer (M), Coke (19-24) Water (25+)	Orange, Cup'a'Soup	Beer (M), Lemonade (19- 24), Tea with M&S (25+F)	Beer (M)
Dinner						
Fish pie – canned with cheese, egg, trim milk & butter	Pork chops	Savoury mince & tomatoes	Lamb chops	Chili con carne	Fish 'n' chips Tomato sauce	Beef steak (25+) Chicken (19-24)
Pasta	Boiled potato (25+) Rice (19-14M)	Mashed potato	Potato baked (19-14) boiled (25+)		White bread, butter	Boiled potato
Peas, beans corn (25+)	Broccoli, carrots, courgettes	Onion, beans, mushrooms, carrots celery (F),	Onion, silverbeet, cabbage	Peas, avocado, carrot, pumpkin		Carrots, pumpkin, kumara
Apple crumble with cream	Strawberries & pears with cream	Chocolate cake with icecream	Stewed apples, trim milk		Banana	Chocolate cake, icecream
Coffee (M), Tea (F) Water	Coffee, milk and sugar(25+) Orange juice,	Coffee (25+)	Tea, sugar	Coffee with milk (25+)	Tea with M&S (25+M), Red Bull (19-14), Beer (M)	White wine Coffee (25+M)
In between						
Sweet biscuit (25+M) Crisps (19-24) Snack bar	Sweet biscuit (Wheatmeal bread, butter) (M) Banana	Chocolate biscuit Blueberry muffin (25+)	Sandwich – white bread, margarine & banana Peppermints	Cake, orange, chocolate (19-14) Apple (25+M)	Fresh apple Cheese (M) Biscuit (19-24)	Sultanas, prunes, Cracker biscuits (25+) Hot Chips (19-24)
Tea (Milk and sugar), Coffee, Water	Tea with milk (25+) Water	Water, Coke (M) coffee (25+) Tea with M&S (25+)	Coffee with milk & sugar (25+), V (19-24)	Milo, Whole milk Coffee with M&S(25+),	Tea with milk (25+) Raro (19-24) coffee with sugar (25+)	Tea (25+), Coke (M), flavoured milk (19-24), Coffee (F), Milo

Table 3 Simulated Diets for 19-24 year old males and 25 years and over males and females: WEEK TWO

Monday 8	Tuesday 9	Wednesday 10	Thursday 11	Friday 12	Saturday 13	Sunday 14
Breakfast						
Muesli with banana, yoghurt	Porridge & whole milk (25+) Orange	Weetbix with whole milk Sugar (19-24), Kiwifruit (F)		Porridge with brown sugar (25+M), Cornflakes (19-24), milk		Fry up – bacon, eggs, sausages, liver
	White toast, margarine and peanut butter (M)	Mixed grain toast with margarine and marmite	White toast with margarine and peanut butter	Mixed grain bread, butter and jam (F)	White toast with margarine and honey	
Whole milk Real coffee with sugar	Tea (25+) Apple juice (19-24)	Whole milk , Water (F) Real coffee (25+)	Water, Tea with M&S (25+)	Milo	Tea (F) Fruit cordial	Carbonated drink Coffee with milk (25+)
Lunch						
Meat pie with tomato sauce (M) White bread & butter	Spaghetti, canned White bread, butter	Filled roll, mixed grain with margarine, cheese Lamb (25+) Chicken (19-24),	Filled roll, white with chicken, salad dressing, butter	Sandwich, mixed grain, butter, ham (25+) Hamburger (19-24)	White bread and cold meat (cornbeef and chicken) Cheese	Tomato and beef pasta dish
Chicken nuggets (F)		Capsicum, lettuce, tomato salad dressing, Apple	Beetroot, tomato	Tomato, lettuce (25+) Hot chips (19-24) Apple	Potato and lettuce salad	Mushrooms Soup (M)
Tea with milk & sugar (25+) Raro (19-24)	Orange juice, water Coffee with milk	Tea (25+) Red Bull (19-24)	Tea (25+) Raro (19-24)	Coffee with milk (25+), coke Beer (19-24)	Tea (25+) Apple juice (19-24)	Tea with trim milk and sugar Whole milk (F)
Dinner						
Fish	BBQ – pork chops & sausages, tomato sauce	Beef steak stirfry	Chicken and corn chowder	Sweet and sour chicken takeaway Indian takeaway	Fish stir fry, fresh fish, mussels, oysters	Hamburger Chicken (F)
Potatoes mashed (25+) Pasta (19-24)	Potatoes – jacket	Rice	Potatoes	Rice, boiled	Potatoes (M), rice	Hot chips with tomato sauce (M) baked potato (F)
Carrots, cabbage (25+), cauliflower boiled	Taro, onion	Cabbage, peas	Onion, peas, beans, silverbeet (M)		Peas, pumpkin, corn, tomato,	
Carrot cake with cream	Fresh fruit salad, cream	Fresh fruit salad	Vanilla icecream		Cake (M)	Pear (F)
Water	V type drink	Red wine, Water (25+)	Soy milk	Soy milk (25+) Beer	Beer	Beer (M) coke
In between						
Chocolate biscuit Lollies Cornflakes with milk (19-24)	Chocolate bar Cake	Cracker biscuits, Potato chips, Dried fruit, Muffin (25+F), cheese (19-24)	Walnut and apple muffin Bar of chocolate	Fresh banana Peanuts	Cake Chicken nuggets (M) Wine biscuit (F)	Sandwich, white with margarine and jam
Tea with milk & sugar (25+), coffee (25+) Raro (19-24)	Strawberry milk, water Tea and coffee with milk & sugar (25+)	Lemonade Coffee with milk and sugar	Whole milk	Lemonade, Cordial Coffee with milk and sugar	Real coffee with sugar Whole milk	Water Coffee with milk and sugar (25+)

School age children's diets

The following table summarises the macronutrient content of the diets and compares this to the simulated 'typical' diet developed.

Table 4 Mean nutrient levels of the 5-6 year old, and 11-14 year old males and females, Simulated Diets and the New Zealand population*

	Energy (MJ)	% En from Fat	% En from CHO	% En from Protein	Calcium (mg)	Iron (mg)
11-14 male						
CNS02 (MOH 2003)	10.5	33.5	52.4	14.6	921	14.4
<i>Simulated 'typical' diet</i>	11.3	36.9	46.7	16.3	907	18
11-14 female						
CNS02 (MOH 2003)	8.4	33.6	53.4	13.5	757	10.4
<i>Simulated 'typical' diet</i>	9.3	36.6	48	15.4	784	14
5-6 year old						
CNS02 (MOH 2003)	7.2	31.6	55.3	13.8	675	9.4
<i>Simulated 'typical' diet</i>	7.2	32.4	53.6	14.0	669	10

*CNS02

Table 5 Simulated Diets for 5-6 year olds and 11-14 year old males and females: WEEK ONE

Monday 1	Tuesday 2	Wednesday 3	Thursday 4	Friday 5	Saturday 6	Sunday 7
Breakfast						
Sultana bran with peaches and sugar	Weetbix with sugar, apricots and trim milk	Cornflakes and trim milk	Muesli (11-14) Weetbix (5-6) with yoghurt	Weetbix, whole milk	Cornflakes with whole milk, sugar and stewed apples	Cornflakes with whole milk (11-14M)
Wheatmeal toast with butter and jam	White toast with peanut butter	Mixed grain toast with butter and marmite Orange (11-14) Banana (5-6)	White toast with butter and honey Fresh orange	White toast with margarine and jam	White toast with peanut butter	White toast with margarine and honey
Apple juice	Water, Milo	Coffee with milk & sugar (11-14) Cordial (5-6)	Whole milk	Water	Whole milk	Powdered fruit drink (5-6)
Lunch						
Sandwich, white with butter, cheese and tomato (11-14)	Filled roll, white with butter, cheese (11-14) Peanut butter sandwich (5-6)	Two minute noodles with Wheatmeal bread butter (11-14) Mince pie (5-6)	Meat lovers pizza	Sandwich, wheatmeal with butter, cheese, and ham Snack bar & crisps (5-6)	Meat pie (11-14) Instant noodles and multigrain bread (5-6)	Egg sandwich, wheatmeal with butter Chocolate biscuit (11-14M)
Calci-yum chocolate dessert	Tomato, cucumber and lettuce (11-14) Banana (5-6)	Banana	Hot chips with tomato sauce	Vegetable soup with noodles (11-14) Fresh orange	Potato crisps Tomato sauce (11-14)	
Powdered drink	Water	Water Lemonade (11-14)	Water		Soy milk	Powdered fruit drink (11-14M)
Dinner						
Fish pie (trim milk, egg, butter, cheese)	Pork chops	Savoury mince (with canned tomatoes)	Roast lamb chops	Chilli con carne	Fish and chips with tomato sauce	Rump steak
Pasta	Potatoes, boiled	Potatoes, boiled	Potatoes, mashed	Noodles (11-14F & 5-6) Pasta (11-14M)	White bread and butter	Baked potatoes
Peas, beans (11-14), corn (in pie)	Cauliflower, carrots, courgettes	Onions, mushrooms, beans	Onion, Silverbeet	Peas, avocado, baked beans, pumpkin		Carrots, kumara,
Apple fruit crumble with icecream	Strawberries & pears with cream		Stewed apples Ice cream (11-14M)		Orange	Chocolate cake with icing sugar (11-14M) Icecream
Water (11-14 F)			Water	Water	Water	Water
In between						
Chocolate biscuit Muesli bar	Wine biscuit Banana Muesli bar (11-14) Flavoured snacks (5-6)	Chocolate biscuit, Lollies, Milky Bar Blueberry muffin (11-14)	Fresh apple Lollies White bread honey sandwich (11-14M)	Potato chips Cracker biscuit (11-14M)	Chocolate biscuit Fresh apple	Raisins Cracker biscuits Peanut butter white bread sandwich (11-14M)
Water	Water	Water Whole milk (5-6)	Water	Milo Whole milk		Water

Table 6 Simulated Diets for 5-6 year olds and 11-14 year old males and females: WEEK TWO

Monday 8	Tuesday 9	Wednesday 10	Thursday 11	Friday 12	Saturday 13	Sunday 14
Breakfast						
Weetbix with sugar, banana and whole milk	Porridge		Weetbix with whole milk (5-6)	Cornflakes with whole milk (5-6)	Weetbix with trim milk (11-14M, 5-6)	
Yoghurt	White toast, margarine and marmite Orange, banana (11-14M)	White toast with margarine and Vegemite	White toast, margarine and peanut butter	White toast with butter and peanut butter	White toast with margarine and honey	Bacon, eggs and sausages White toast
Whole Milk	Water	Whole milk (11-14M) Powdered drink (5-6) Water	Water	Milo Whole milk (11-14)	Powdered drink	Powdered drink (11-14) Water (5-6)
Lunch						
Meat pie White bread with butter	Spaghetti on white toast (11-14) Vegemite white bread sandwich (5-6)	Sandwich, white with margarine, salad dressing, ham, cheese	Chicken roll, white with butter	Sandwich, mixed grain with butter, ham (11-14), Peanut butter sandwich (5-6)	Cold chicken and corned beef (11-14), Spaghetti and soup (5-6)	Mince with pasta, tomatoes and mushrooms (11-14)
Orange (5-6)	Dairyfood (5-6)	Lettuce, tomato, capsicum Fresh apple	Beetroot (11-14) Flavoured snacks	Lettuce and tomato (11-14) Banana	Lettuce and potato salad (11-14), Multi-grain bread and margarine	Macaroni cheese and corned beef (5-6)
Water	Orange juice Water			Water	Water	Whole milk
Dinner						
Chicken nuggets	Sausages with tomato sauce	Chicken breast	Hamburger	Chinese sweet 'n' sour chicken / Indian dish (11-14) Fish fingers	Fish, mussels (11-14) Corn chowder	Chicken breasts
Mashed potatoes	Baked potatoes	Baked potatoes	Hot chips	Rice, boiled	Rice, boiled	Potatoes, baked
Broccoli, carrots Cabbage (11-14)	Fried onions	Cabbage and peas			Peas, pumpkin, tomatoes	Salad – lettuce, tomato cucumber
	Fresh nectarine	Fresh fruit salad	Ice cream			Pear, pineapple (5-6)
	Caffeinated drink (11-14) Lemonade (5-6)	Water	Coke (5-6)	Cordial	Lemonade	Coke (11-14) Water (5-6)
In between						
Chocolate biscuit Lollies	Muesli bar Chocolate bar	Cracker biscuits Savoury scone Burger rings Prunes	Muffin (11-14F, 5-6) Chocolate bar Grapes (5-6)	Yoghurt Apple (11-14) Peanuts Gingernut	Potato crisps Biscuit Cake Apple (5-6)	Sandwich, white with margarine and jam Hot potato chips (11-14) Potato crisps (11-14)
Water Cordial (5-6)	Strawberry milk Water	Lemonade	Whole milk Water	Coke (11-14) Water, Tea	Whole milk	Water, Milo

Pre-school and infant diets

The following table summarises the macronutrient content of the diets and compares this to the simulated 'typical' diet developed.

Table 7 Mean nutrient levels of the 1-3 year old, and 6-12 month infant males and females, Simulated diets and regional research

	Energy (MJ)	% En from Fat	% En from CHO	% En from Protein	Calcium (mg)	Iron (mg)
1-3 year old						
(Soh et al 2001) 1-2 years old	4.2	33.6	51.9	14.5	704	4.9
(Watson 1999) 1-3 years old	4.9-6.2	31-35	49-51	14-16	529-609	7.7-8.9
(Weber 1997) 13-26 month old	4.8	43g	-	45g	-	-
<i>Simulated 'typical' diet</i>	5.2	33.6 (47g)	51.5	14.8 (46g)	735	7.4
6- 12 months						
(Soh et al 2001) Non breast fed infants.	3.2	34.0	53.2	13.4	613	9.4
<i>Simulated 'typical' diet</i>	3.8	34.8 (35g)	50.9	14.4 (32g)	617	8.5

Table 8 Simulated Diets for 1-3 year olds and 6-12 month infants: WEEK ONE

Monday 1	Tuesday 2	Wednesday 3	Thursday 4	Friday 5	Saturday 6	Sunday 7
Breakfast						
Weetbix (C), Cereal based weaning Food (I) Stewed apples	Sultana bran and pears	Weetbix (C), Cereal based weaning Food (I) Banana	Yoghurt Muesli, cornflakes (C) Apple (I)	Cornflakes with pears and sugar	Porridge	Weetbix with peaches
Wheatmeal toast with butter and jam	White toast with margarine and honey (C)	Wheatmeal toast with butter, jam		White toast with butter and Marmite	White toast with margarine and jam	White bread and Vegemite (I)
Whole milk (C) Follow on formula (I)	Whole milk (C) Follow on formula	Whole milk (C) Follow on formula (I)	Whole milk (C) Follow on formula (I)	Warm Milo (C) Follow on formula (I)	Water Whole milk (C)	Whole milk
Lunch						
Pork White bread (C)	Fish fingers	Yoghurt White bread with butter(C) lettuce (C), ham	Meat pie (C) Cake (C) Savoury dish (I)	Two minute noodles Sausage	Yoghurt Corn (canned) on toast – wheatmeal with butter	Pasta Meat pie (I) Muffin (C)
Tomato and avocado Orange	Pumpkin mash with cheese, pineapple	Tomato (C) Fresh grapes	Nectarine	Fresh melon		Pumpkin, courgette
Water Whole milk (I)	Follow on formula (I)	Follow on formula (I) Water	Water, Orange juice (C) Follow on formula (I)	Whole milk, breakfast drink, water	Apple juice, Water	Soy milk (C)
Dinner						
Macaroni Cheese	Mince (C) Baby food custard (I)	Corned beef with tomato sauce	Savoury mince	Fresh fish	Fish and chips	Beef rump
		Rice, boiled	Potatoes, mashed	Potatoes, baked		Potatoes, boiled
Beans	Cabbage, celery, capsicum (C)	Cauliflower	Tomatoes in juice, carrots, onion, mushrooms	Silverbeet	Sliced cucumber	Pumpkin and carrot mash (C), cabbage (I)
Icecream, canned apricots, cream	Dairy Dessert (C) Yoghurt	Stewed apples (C)	Icecream	Yoghurt		Icecream, canned apricots
Whole milk (C) Follow on formula (I)	Whole milk (C) Follow on formula (I)	Whole milk	Flavoured milk (C) Follow on formula (I)	Whole milk	Water (C) Milo	Lemonade
In between						
Cracker biscuit Cake	Chocolate biscuit, raisins Hot potato chips Cracker biscuit (I)	Cheese Sultana scone Wine biscuit	Potato chips, Kiwifruit Fruit bursts Chocolate biscuit	Krispie biscuit Burger rings	Banana Raisins (C) Fresh apple, Wine biscuit	Chocolate biscuit Cracker biscuits (I) Cheese, muesli bar
Water, fruit cordial	Coke (C)	Water, powdered drink	Water, powdered drink	Water, Apple juice		Whole milk (C) Follow on formula (I)

I = 6-12 month infants

C = 1-3 year olds

Table 9 Simulated Diets for 1-3 year olds and 6-12 month infants: WEEK TWO

Monday 8	Tuesday 9	Wednesday 10	Thursday 11	Friday 12	Saturday 13	Sunday 14
Breakfast						
Yoghurt Weetbix (C) Banana	Weetbix with sugar	Weetbix (C), Cereal based weaning food (I)	Weetbix with banana	Yoghurt Weetbix (C)	Porridge Apples (C) Banana (I)	Bacon and eggs Banana
White toast with butter and honey	Kiwifruit (C)	White toast, butter and peanut butter (C) Vegemite (I)		White toast with margarine and honey	White toast with butter and marmite	
Whole milk (C) Follow on formula (I)	Cordial (C) Follow on formula (I)	Whole milk (C) Follow on formula (I)	Whole milk (C) Follow on formula (I)	Whole milk (C) Follow on formula (I)	Whole milk (C) Follow on formula (I)	Whole milk (C) Follow on formula (I)
Lunch						
Canned spaghetti White bread with butter Egg (C)	Tuna (canned) dish with egg and tomatoes (in juice) Noodles (C)	Savoury pasta and mince	Savoury chicken infant dish Soup	Sandwich, white bread with margarine, cheese Egg and ham (C)	Takeaways – hamburger Tomato sauce	Yoghurt, cheese, baked beans
Banana (I)	Banana (C)	Onion, Mushroom, Carrot (C), Pumpkin (I)	Fresh apple	Tomato	Hot chips Fresh strawberries	Orange
Orange juice, water (C) Follow on formula (I)	Follow on formula (I) Water	Water Follow on formula (I)	Follow on formula (I) Water	Apple juice (C) Follow on formula (I)	Orange juice Follow on formula (I)	Follow on formula (I)
Dinner						
Lamb and potato mash with gravy	Beef sausages	Chicken nuggets	Beef mince with cheese	Beef steak (C), Savoury beef infant dish (I)	Pizza	Chicken stir fry
		Hot potato chips	Potatoes			Potatoes
	Kumara, mushrooms		Carrots (C) Peas		Carrots Orange (C)	Peas, broccoli
Dairy dessert (C) Custard/fruit dish (I)		Icecream, yoghurt	Dairy dessert	Dairy dessert (C) Vanilla custard (I),	Dairy dessert	Water
Follow on formula (I)	Follow on formula (I)	Water	Follow on formula (I)	Whole milk (C) Follow on formula (I)	Follow on formula (I)	Whole milk
In between						
Orange, Chocolate Cracker biscuits with butter	Chocolate biscuits Sultanas Cheese	Raisins, Fresh apple Wine biscuit (C) Cracker (I)	Gingernut biscuit Raisins Twisties	Banana, Jelly Babies Chocolate biscuit (C) Wine biscuit	Chocolate biscuit Cracker biscuit (C) Prunes	Fresh apple Wine biscuit Bread, mixed grain with marg and Marmite (C)
Water Cordial (C)	Apple juice, Water	Trim milk (C) Follow on formula (I)	Water Cordial (C)	Lemonade	Water, powdered drink Follow on formula (I)	Water (C)

Appendix 3: Amounts of foods assigned per 14 day period (g) or (mls)

Food from Food List	25+ yrs Male	25+ yrs Female	19-24 yrs Male	11-14 yrs Male	11-14 yrs Female	5-6 yrs M&F	1-3 yrs M&F	6-12 months M&F
Apple based juice	250	200	750	50	80	80	380	130
Apples	840	720	590	960	1010	1050	350	270
Apricots, canned	50	50	30	30	45	60	60	70
Avocado	30	50	30	30	30	20	20	20
Bacon	80	40	90	45	20	20	30	20
Banana	470	470	500	360	260	420	490	420
Beans	115	100	100	90	60	40	15	20
Beans, baked	120	80	100	100	90	90	100	60
Beef,rump	290	160	300	200	150	90	50	30
Beef, mince	530	260	400	280	140	150	120	80
Beer	5400	450	5100	-	-	-	-	-
Beetroot	30	40	30	30	30	10	-	-
Biscuit, chocolate	90	70	100	310	250	200	115	45
Biscuit, cracker	70	70	40	70	70	70	60	50
Biscuit, plain sweet	70	60	80	85	90	90	165	65
Bran flake cereal, mixed	30	30	40	42	42	15	30	20
Bread, mixed grain	370	360	185	170	175	220	30	-
Bread, wheatmeal	360	280	280	295	175	150	115	75
Bread, white	1170	700	1060	1760	1265	1195	425	265
Broccoli/Cauliflower	140	200	140	130	90	80	70	40
Butter	233	148	319	100	70	70	55	40
Cabbage	200	170	140	140	100	60	15	15
Caffeinated beverage	350	350	1400	200	150	-	-	-
Cake	385	310	540	100	160	60	60	20
Capsicum	40	40	50	40	40	15	10	-
Carbonated drink	2000	1150	3850	1370	1150	570	300	125
Carrot	280	230	240	180	150	160	115	70
Celery	30	40	30	50	30	15	15	-
Cheese	260	205	290	205	205	100	145	105
Chicken	450	380	660	670	440	340	60	40
Chicken nuggets	30	30	100	90	60	45	50	25
Chinese takeaway dish	180	180	200	120	100	-	-	-
Chocolate beverage	500	500	500	900	800	800	300	100
Chocolate, plain milk	85	70	170	180	130	100	20	10

Food from Food List	25+ yrs Male	25+ yrs Female	19-24 yrs Male	11-14 yrs Male	11-14 yrs Female	5-6 yrs M&F	1-3 yrs M&F	6-12 months M&F
Coffee beans ground	1900	1200	400	-	-	-	-	-
Coffee instant	4200	4750	1750	100	150	-	-	-
Confectionery	45	45	60	190	130	95	35	20
Corn, canned	105	90	60	70	50	85	30	30
Corned beef	130	100	100	80	50	50	35	25
Cornflakes	70	45	150	110	70	115	60	30
Courgette	40	40	30	40	20	15	10	10
Cream	80	65	70	40	30	14	20	10
Cucumber	35	60	40	40	20	15	15	15
Dairy dessert (Child)	-	-	-	75	130	290	460	130
Egg	310	245	290	220	190	160	110	60
Fish fingers (Child)	-	-	-	20	30	40	40	30
Fish in batter	140	100	200	100	60	80	45	25
Fish, canned	70	60	40	40	40	14	20	25
Fish, fresh	280	180	200	170	70	45	30	15
Flavoured snacks (Child)	-	-	-	130	135	110	60	35
Fruit drink, powdered	600	400	1800	970	700	1200	830	350
Grapes	40	50	30	20	30	40	20	10
Ham	130	80	60	180	100	70	70	20
Hamburger, plain	200	150	800	300	265	100	80	40
Honey	70	40	70	40	22	32	20	20
Icecream	220	140	190	470	370	370	150	80
Indian dish	180	180	200	120	100	-	-	-
Infant & Follow on formula	-	-	-	-	-	-	200	4900
Infant weaning food, cereal based	-	-	-	-	-	-	-	260
Infant weaning food, custard / fruit dish	-	-	-	-	-	-	-	170
Infant weaning food, savoury dish	-	-	-	-	-	-	120	340
Jam	75	60	60	40	30	30	20	15
Kiwi fruit	50	80	40	20	40	80	50	15
Kumara	80	80	40	30	70	20	30	30
Lamb/Mutton	230	130	90	100	80	45	40	30
Lambs liver	30	30	30	-	-	-	-	-
Lettuce	220	200	200	190	130	30	15	-
Margarine/Table spread	175	105	130	125	95	85	35	30

Food from Food List	25+ yrs	25+ yrs	19-24	11-14	11-14	5-6 yrs	1-3 yrs	6-12
	Male	Female	yrs Male	yrs Male	yrs Female	M&F	M&F	months M&F
Meat pie	340	130	850	360	320	200	90	50
Melon	30	40	30	20	30	40	30	30
Milk, flavoured	100	100	650	200	200	150	130	-
Milk, trim (0.5%)	1545	1370	1090	320	300	230	200	-
Milk, whole	2470	1850	2630	2290	1560	2010	3410	960
Muesli	90	100	100	40	35	15	15	-
Muffin/scone	200	245	90	170	250	140	70	35
Mushrooms	50	90	50	60	40	15	15	15
Mussels	45	15	30	15	15	0	-	-
Nectarines	250	280	90	100	90	130	30	50
Noodles, instant	350	210	300	300	460	300	160	50
Oats, rolled	340	150	60	75	80	70	120	70
Oil	180	110	215	85	60	40	35	10
Onion	270	190	230	130	85	70	15	10
Orange juice	350	300	850	50	80	80	280	110
Oranges	260	360	380	430	710	610	260	110
Oysters	50	30	30	-	-	-	-	-
Pasta, dried	400	280	650	390	270	220	150	110
Peaches, canned	40	60	40	30	45	60	50	50
Peanut butter	30	15	30	70	45	60	20	-
Peanuts	35	20	40	20	20	20	-	-
Pears	130	200	170	120	150	120	70	50
Peas	250	190	200	165	130	90	60	40
Pineapple	70	80	60	25	30	70	20	20
Pizza	225	130	350	150	180	130	70	40
Pork chop	180	110	250	110	80	45	20	20
Potato crisps	35	35	115	140	155	90	35	15
Potato, hot chips	445	220	830	700	560	320	210	90
Potatoes, peeled	1430	740	900	720	670	540	240	150
Potatoes, with skin	200	200	350	450	360	280	60	40
Prunes	40	30	20	15	20	20	20	15
Pumpkin	200	140	100	60	50	45	80	65
Raisins/Sultanas	50	30	30	30	30	30	99	65
Rice, white	450	400	500	360	200	220	55	30
Salad dressing	50	50	50	30	30	20	-	-
Sausages, beef	220	140	250	300	200	200	150	70
Silverbeet	75	70	85	40	30	25	20	15
Snack bars	30	30	30	120	115	115	30	20

Food from Food List	25+ yrs Male	25+ yrs Femal e	19-24 yrs Male	11-14 yrs Male	11-14 yrs Female	5-6 yrs M&F	1-3 yrs M&F	6-12 months M&F
Soup	350	260	320	150	150	100	50	30
Soy, milk	350	400	150	150	250	150	100	-
Spaghetti in sauce (canned)	200	150	200	200	150	120	150	100
Strawberries	50	50	25	20	45	15	20	10
Sugar	350	235	250	95	95	55	25	15
Taro	30	20	30	-	-	-	-	-
Tea	5900	6600	1100	250	250	200	-	-
Tomato	430	420	180	240	280	80	65	40
Tomato sauce	130	70	250	115	75	45	50	30
Tomatoes in juice	180	130	230	110	65	50	45	40
Water - bottled	397	540	384	632	634	673	455	270
Water - tap	2653	3610	2566	4228	4246	4507	3045	1810
Weetbix	130	60	100	200	100	150	210	70
Wine, still red	280	300	200	-	-	-	-	-
Wine, still white	280	400	200	-	-	-	-	-
Yeast extract	25	20	25	20	15	20	25	25
Yoghurt	160	180	120	200	260	260	870	770