

**2003/04 NEW ZEALAND TOTAL DIET SURVEY**

**ANALYTICAL RESULTS - Q1**

**20 November 2003**

Prepared as part of a New Zealand Food Safety Authority  
contract for scientific services

by

Dr R W Vannoort

Client Report  
FW 03/77

**2003/04 NEW ZEALAND TOTAL DIET SURVEY  
ANALYTICAL RESULTS - Q1**

**20 November 2003**

Prof. Ian W Shaw  
Food Safety Programme Manager

Dr R W Vannoort  
Project Leader

B M Thomson  
Peer Reviewer

## **DISCLAIMER**

This report or document ("the Report") is given by the Institute of Environmental Science and Research Limited ("ESR") solely for the benefit of the New Zealand Food Safety Authority, District Health Boards and other Third Party Beneficiaries as defined in the Contract between ESR and the New Zealand Food Safety Authority, and is strictly subject to the conditions laid out in that Contract.

Neither ESR nor any of its employees makes any warranty, express or implied, or assumes any legal liability or responsibility for use of the Report or its contents by any other person or organisation.

## **ACKNOWLEDGMENTS**

I wish to acknowledge the work carried out by Health Protection Officers at Auckland District Health Board, Hawkes Bay District Health Board, Crown Public Health and Public Health South for the food sampling carried out by them during the first quarter of the 2003 New Zealand Total Diet Survey.

The efforts of Mrs Shirley Jones and Miss Hui-Ming Lin in preparing foods as for 'normal human consumption' were greatly appreciated.

Moisture and elemental analyses were carried out by RJHill Laboratories Ltd, Hamilton.

Agricultural compound residue work was undertaken by AgriQuality NZ Ltd, Lower Hutt.

## CONTENTS

<b>GLOSSARY OF TERMS AND ABBREVIATIONS.....</b>	<b>I</b>
<b>1 INTRODUCTION .....</b>	<b>1</b>
<b>2 SAMPLING METHODS .....</b>	<b>1</b>
2.1 Quarter 1 (Q1) sampling.....	1
2.2 Retail Outlets.....	1
2.3 Range of brands/Use by dates/Batch numbers .....	1
2.4 Sampling - Regional Foods .....	1
<b>3 ANALYTE LIST.....</b>	<b>3</b>
3.1 Agricultural Compounds .....	3
3.2 Elements .....	5
<b>4 ANALYTICAL RESULTS .....</b>	<b>6</b>
4.1 Analytical Quality Control .....	6
4.2 Elements .....	6
4.2.1 <u>Total Arsenic</u> .....	7
4.2.2 <u>Cadmium</u> .....	9
4.2.3 <u>Iodine</u> .....	11
4.2.4 <u>Iron</u> .....	13
4.2.5 <u>Lead</u> .....	15
4.2.6 <u>Mercury</u> .....	17
4.2.7 <u>Selenium</u> .....	19
4.2.8 <u>Sodium</u> .....	21
4.3 Agricultural Compound Residues .....	23
4.3.1 <u>Multi-residue pesticides screened for but not detected in any food</u> <u>in Q1 of 2003/04 NZTDS</u> .....	24
4.3.2 <u>Azinphos-methyl</u> .....	25
4.3.3 <u>Azoxystrobin</u> .....	27
4.3.4 <u>Bifenthrin</u> .....	29
4.3.5 <u>Buprofezin</u> .....	31
4.3.6 <u>Captan</u> .....	33
4.3.7 <u>Carbaryl</u> .....	35
4.3.8 <u>Chlorothalonil</u> .....	37
4.3.9 <u>Chlorpropham</u> .....	39
4.3.10 <u>Chlorpyrifos</u> .....	41
4.3.11 <u>Chlorpyrifos-methyl</u> .....	43
4.3.12 <u>Cyprodinil</u> .....	45
4.3.13 <u>DDD, 4,4'</u> .....	47
4.3.14 <u>DDE, 4,4'</u> .....	49
4.3.15 <u>Diazinon</u> .....	51
4.3.16 <u>Dichlofluanid</u> .....	53
4.3.17 <u>Dieldrin</u> .....	55
4.3.18 <u>Difenoconazole-cis</u> .....	57
4.3.19 <u>Difenoconazole-trans</u> .....	59
4.3.20 <u>Dimethoate</u> .....	61
4.3.21 <u>Diphenylamine</u> .....	63

4.3.22	<u>Endosulfan, a-</u>	65
4.3.23	<u>Endosulfan, b-</u>	67
4.3.24	<u>Endosulfan-sulphate</u>	69
4.3.25	<u>Ethoxyquin</u>	71
4.3.26	<u>Fenitrothion</u>	73
4.3.27	<u>Iprodione</u>	75
4.3.28	<u>Malathion</u>	77
4.3.29	<u>Metalaxyl</u>	79
4.3.30	<u>Omethoate</u>	81
4.3.31	<u>Penconazole</u>	83
4.3.32	<u>Phosmet</u>	85
4.3.33	<u>Pirimicarb</u>	87
4.3.34	<u>Pirimiphos-methyl</u>	89
4.3.35	<u>Procymidone</u>	91
4.3.36	<u>Propazine</u>	93
4.3.37	<u>Propham</u>	95
4.3.38	<u>Pyrimethanil</u>	97
4.3.39	<u>Tebuconazole</u>	99
4.3.40	<u>Tebufenpyrad</u>	101
4.3.41	<u>Tetrachlorvinphos</u>	103
4.3.42	<u>Tolylfluanid</u>	105
4.3.43	<u>Dithiocarbamate Fungicides</u>	107
4.3.44	<u>Acid Herbicides</u>	108
<b>REFERENCES</b>		<b>110</b>
<b>APPENDIX 1</b>	<b>BACKGROUND TO THE 2003/04 NEW ZEALAND TOTAL DIET SURVEY</b>	<b>111</b>
<b>APPENDIX 2</b>	<b>FOOD LIST AND ASSOCIATED ANALYSES IN THE 2003/04 NZTDS</b>	<b>114</b>
<b>APPENDIX 3</b>	<b>ANALYTICAL QUALITY CONTROL PROCEDURES</b>	<b>118</b>

## LIST OF TABLES

Table 1	Multi-residue pesticide screen in the 2003/04 New Zealand Total Diet Survey.....	3
Table 2	Elements analysed for in the 2003/04 New Zealand Total Diet Survey.....	5
Table 3	Total arsenic content (mg/kg) of foods in Q1 of 2003/04 NZTDS .....	7
Table 4	Cadmium content (mg/kg) of foods in Q1 of 2003/04 NZTDS .....	9
Table 5	Iodine content (mg/kg) of foods in Q1 of 2003/04 NZTDS.....	11
Table 6	Iron content (mg/kg) of foods in Q1 of 2003/04 NZTDS .....	13
Table 7	Lead content (mg/kg) of foods in Q1 of 2003/04 NZTDS .....	15
Table 8	Total mercury content (mg/kg) of foods in Q1 of 2003/04 NZTDS .....	17
Table 9	Selenium content (mg/kg) of foods in Q1 of 2003/04 NZTDS.....	19
Table 10	Sodium content (mg/kg) of foods in Q1 of 2003/04 NZTDS .....	21
Table 11	Multi-residue pesticides screened for but not detected in any food in Q1 of 2003/04 NZTDS .....	24
Table 12	Azinphos-methyl residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	25
Table 13	Azoxystrobin residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	27
Table 14	Bifenthrin residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	29
Table 15	Buprofezin residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	31
Table 16	Captan residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	33
Table 17	Carbaryl residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	35
Table 18	Chlorothalonil residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	37
Table 19	Chlorpropham residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	39
Table 20	Chlorpyriphos residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	41
Table 21	Chlorpyriphos-methyl residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	43
Table 22	Cyprodinil residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	45
Table 23	DDD, 4,4' residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	47
Table 24	DDE, 4,4' residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	49
Table 25	Diazinon residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	51

Table 26	Dichlofluanid residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	53
Table 27	Dieldrin residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	55
Table 28	Difenoconazole-cis residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	57
Table 29	Difenoconazole-trans residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	59
Table 30	Dimethoate residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	61
Table 31	Diphenylamine residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	63
Table 32	Endosulfan, a- residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	65
Table 33	Endosulfan, b-residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	67
Table 34	Endosulfan-sulphate residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	69
Table 35	Ethoxyquin residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	71
Table 36	Fenitrothion residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	73
Table 37	Iprodione residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	75
Table 38	Malathion residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	77
Table 39	Metalaxyl residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	79
Table 40	Omethoate residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	81
Table 41	Penconazole residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	83
Table 42	Phosmet residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	85
Table 43	Pirimicarb residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	87
Table 44	Pirimiphos-methyl residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	89
Table 45	Procymidone residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	91
Table 46	Propazine residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	93
Table 47	Propham residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	95
Table 48	Pyrimethanil residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	97
Table 49	Tebuconazole residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	99
Table 50	Tebufenpyrad residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	101
Table 51	Tetrachlorvinphos residues (mg/kg) in foods in Q1 of 2003/04 NZTDS .....	103
Table 52	Tolyfluanid residues (mg/kg) in foods in Q1 of 2003/04 NZTDS.....	105



Table 53	Dithiocarbamate fungicide content (mg/kg of CS <sub>2</sub> ) of fruit and vegetable products in Q1 of 2003/04 NZTDS .....	107
Table 54	Acid herbicide content (mg/kg) of foods analysed in Q1 of 2003/04 NZTDS ..	108

## GLOSSARY OF TERMS AND ABBREVIATIONS

### *Agricultural Compound*

is a generic term for any substance or mixture of substances, or biological compounds, used or intended for use in the direct management of plants or animals or to be applied to the land or water on or in which the plants or animals are managed, for the purposes of:-

- managing pests, including vertebrate pests; or
- managing, promoting or regulating plant or animal productivity and performance or reproduction; or
- fulfilling special nutritional requirements; or
- the manipulation, capture or immobilisation of animals; or
- diagnosing the condition of animals; or
- preventing or treating the condition of animals; or
- enhancing the effectiveness of an agricultural compound used for the treatment of plants and animals; or
- marking animals

and includes any pesticide, veterinary medicine, any substance, mixture of substances, or biological compound used for post-harvest pest control or disinfection of raw primary produce.

### *FSANZ*

Food Standards Australia New Zealand

### *FSC*

The Food Standards Code.

### *Codex*

Codex Alimentarius Commission. Publication of the joint FAO/WHO Codex Alimentarius Commission which sets standards on acceptable levels of chemical components in foods.

### *CRM*

Certified Reference Material or Standard Reference Material. A material tested by a wide range of international laboratories, to reach consensus on the levels of analytical components which it contains.

### *LOD*

Limit of Detection. This may be defined as the minimum concentration of the component in a dietary sample that can just be qualitatively detected, but not quantitatively determined, under a pre-established set of analytical conditions.

### *LOQ*

Limit of Quantitation. This is the minimum concentration of a component that can be determined quantitatively with acceptable accuracy and consistency. It often approximates to a value of approximately three times the limit of detection.

### *LOR*

Limit of Reporting. This is the minimum concentration of a component that can be reported with confidence. The limit of reporting is also referred to as the 'limit of determination' or 'limit of quantitation'.

<i>ML</i>	Maximum Level. This means the maximum level of a specified contaminant which is permitted to be present in a nominated food, unless otherwise specified, in milligrams of the contaminant per kilogram of the food (mg/kg). MLs relevant to food consumed in NZ are set by FSANZ or Codex. For more details see section 4.2.
<i>MR</i>	Multi-residue. A pesticide residue analytical technique developed to detect and quantify the widest achievable range of pesticide types.
<i>MRL</i>	Maximum Residue Limit. This is the maximum concentration of a agricultural compound residue legally permitted (or recognised as acceptable) in or on a food (agricultural commodity or animal feed). MRLs for foodstuffs in New Zealand are set out in the New Zealand Food Standards 2002 and associated amendments, FSANZ standard 1.4.2 or Codex. MRLs are the maximum considered to result from the use of the agricultural compound according to Good Agricultural Practice (GAP) and which is toxicologically acceptable.
<i>NZFSA</i>	New Zealand Food Safety Authority
<i>NZTDS</i>	New Zealand Total Diet Survey.
<i>Pesticides</i>	is a generic term for any substance intended for preventing, destroying, attracting, repelling, or controlling any pest including unwanted species of plants or animals, during the production, storage, transportation, distribution, and processing of food, agricultural commodity, or animal feed. The term includes fungicides, herbicides, insecticide, and chemicals which may be administered to animals for the control of ectoparasites. It includes substances applied to crops either before or after harvest to protect the commodity from deterioration during storage and transport.
<i>Pesticide residue</i>	is any specified substance in food, agricultural commodity, or animal feed resulting from the use of a pesticide (from known, unknown or unavoidable sources). Includes any derivatives of a pesticide, such as conversion products, metabolites, reaction products, and impurities considered to be of toxicological significance.
<i>Q1, Q2, etc.</i>	Quarter 1, quarter 2, etc. of the New Zealand Total Diet Survey sampling programme.

## **1 INTRODUCTION**

This report presents the analytical results from the first of four quarterly sampling periods to be carried out during the 2003/04 New Zealand Total Diet Survey (NZTDS). The purpose of producing this report at this stage is to make the data on the concentrations of agricultural compound residues, contaminant elements and nutrient elements, in the NZTDS foods analyzed, available to interested parties in a timely manner.

Background to the current survey is provided in Appendix 1. The Food List is detailed in Appendix 2.

## **2 SAMPLING METHODS**

### **2.1 Quarter 1 (Q1) sampling**

The sampling carried out in Q1 was for regional foods (explained and listed in Appendix 1). Q1 sampling was carried out on five successive Mondays, with different foods being sampled each week.

**Locations for regional food sampling:** Auckland, Napier, Christchurch, Dunedin

**Dates for Q1 sampling:** Mondays 28 July, 4, 11, 18, 25 August 2003

### **2.2 Retail Outlets**

Wherever possible, the purchasing of any particular food has been carried out over a range of retail outlets representing the buying habits of the majority of the community. This inevitably meant that the bulk of purchases are made at supermarkets, however, corner stores, delicatessens, butchers and green grocers have been included where appropriate.

### **2.3 Range of brands/Use by dates/Batch numbers**

Where applicable, the brands to be purchased were specified. These were based on data for the most commonly purchased brands. Where the brands were not specified to the same degree, then a range of available brands, including generic, were purchased. A range of use by dates or batch numbers within each brand were included to increase the range of products being sampled.

Where imported and domestic lines were available for a particular food, the purchasing officer selected a mixture. Imports which are boutique or specialised lines were avoided.

### **2.4 Sampling - Regional Foods**

These instructions apply to the sampling of Regional (R) foods for any one (seasonal) sampling. Each food will be sampled at two different times of year (seasons).

All regional foods involved at least four purchases of each food in each of four geographical regions. The four purchases allowed a greater range of retail outlets to be represented in the

sampling. For instance, the four purchases of a meat may include two from a supermarket and two from a specialist butcher's. This effectively resulted in a minimum of sixteen (16) samples of each food arriving at the food preparation laboratory. The four purchases from each geographical region were composited in all cases by the food preparation laboratory. For almost all foods, the different regional samples were analysed individually for all analytes; for a few food/analyte combinations, the four regional samples were composited to form a single seasonal composite.

### 3 ANALYTE LIST

#### 3.1 Agricultural Compounds

Testing of foods in the 2003/04 NZTDS will be undertaken for pesticides, dithiocarbamate and acid herbicide compounds by way of three separate screens. The multi-residue (MR) pesticide screen includes organochlorine pesticides, organophosphorus pesticides, pyrethroids, fungicides, and a number of other pesticides not included in these groups.

**Table 1 Multi-residue pesticide screen in the 2003/04 New Zealand Total Diet Survey**

Acephate	Chlorpyrifos	Diphenamid	Folpet
Acetochlor	Chlorpyrifos-methyl	Diphenylamine	Furalaxyl
Alachlor	Chlorthal-dimethyl	Disulfoton	Furathiocarb
Aldrin	Chlozolinate	Endosulfan, a-	Halxyfop-methyl
Atrazine	Clomazone	Endosulfan, b-	HCB
Azaconazole	Coumaphos	Endosulfan-sulphate	Heptachlor
Azinphos-methyl	Cyanazine	Endrin	Heptachlor endo epoxide
Azoxystrobin	Cyfluthrin	EPN	Heptachlor exo epoxide
Benalaxyl	Cyhalothrin-g	Epoxiconazole	Heptenophos
Bendiocarb	Cyhalothrin-l	EPTC	Hexaconazole
Benodanil	Cypermethrin	Esfenvalerate	Hexazinone
BHC - a	Cyproconazole	Ethion	Indoxacarb
BHC - b	Cyprodinil	Ethoxyquin	Iodophenphos
Bifenthrin	DDD, 4,4'	Etridiazole	Iprodione
Binapacryl	DDD, 2,4'	Etrimphos	Isazophos
Bitertanol	DDE, 4,4'	Famphur	Isofenphos
Bromacil	DDE, 2,4'	Fenarimol	Isoproturon
Bromophos-ethyl	DDT, 2,4'	Fenchlorphos	Kresoxim-methyl
Bromophos-methyl	DDT, 4,4'	Fenitrothion	Lindane
Bromopropylate	Deltamethrin	Fenoxycarb	Linuron
Bupirimate	Demeton-s-methyl	Fenpiclonil	Malathion
Buprofezin	Diazinon	Fenpropathrin	Metalaxyl
Captan	Dichlobenil	Fenpropimorph	Methacrifos
Carbaryl	Dichlofenthion	Fensulfothion	Methidathion
Carbofuran	Dichlofluanid	Fenthion	Methiocarb
Carboxin	Dichlorvos	Fenvalerate	Metolachlor
Chlordane-cis	Dicloran	Fipronil	Metribuzin
Chlordane-trans	Dicrotophos	Flamprop-methyl	Mevinphos
Chlorfenvinphos	Dieldrin	Fluazifop-butyl	Monocrotophos
Chlorfluazuron	Difenoconazole-cis	Fluazinam	Napropamide
Chloridazon	Difenoconazole-trans	Fluometuron	Nitrofen
Chlornitrofen	Diufenican	Flusilasole	Nitrothal-isopropyl
Chlorobenzilate	Dimethenamid	Flutriafol	Norflurazon
Chlorothalonil	Dimethoate	Fluvalinate-DL	Omethoate
Chlorpropham	Dimethomorph	Fluvalinate-D	Oxadiazon

Oxadixyl	Phosphamidon-b	Propyzamide	Tetrachlorvinphos
Oxyfluorfen	Piperonyl butoxide	Prothiophos	Tetradifon
Paclobutrazol	Pirimicarb	Pyrazophos	Thiometon
Parathion(-ethyl)	Pirimiphos-methyl	Pyrimethanil	Tolclofos-methyl
Parathion-methyl	Prochloraz	Pyriproxyfen	Tolyfluanid
Penconazole	Procymidone	Quintozene	Tralkoxydim
Pendimethalin	Prometryn	Quizalofop-ethyl	Triademefon
Permethrin-cis	Propachlor	Simazine	Triademenol
Permethrin-trans	Propargite 1+2	Tebuconazole	Triallate
Phorate	Propazine	Tebufenpyrad	Triazophos
Phorate sulphoxide	Propetamphos	Terbacil	Trifloxystrobin
Phorate sulphone	Propham	Terbufos	Trifluralin
Phosalone	Propiconazole-cis	Trebumeton	Vinclozolin
Phosmet	Propiconazole-trans	Terbutylazine	
Phosphamidon-a	Propoxur	Terbutryn	

All foods included in the survey are analysed by the multi-residue pesticide method.

The dithiocarbamate (DTC) pesticides require a separate screen and this analysis covers, but does not distinguish between:

Dithane	Mancozeb	Nabam	Zinab
Ferbam	Maneb	Thiram	Ziram

Analysis for dithiocarbamate fungicides is carried out on fruit and vegetable products only.

The acid herbicides (AH) screen also requires a separate screen and this analysis covers : -

2,4 -D	Chlorsulphuron	MCPA	Picloram
2,4-DB	Clopyralid	MCPB	Trialfuron
2,4,5 -T	Cymoxanil	Mecoprop -P	Triclopyr
Bentazone	Dicamba	Metamitron	
Bromoxynil	Dichlorprop	Metsulfuron	

Only selected foods are analysed for acid herbicides.

### 3.2 Elements

Eight elements are included for analysis in the 2003/04 NZTDS. The table below lists the elements, the analytical methodologies to be used and the foods which were analysed. It should be noted that Q1 involved analysis of regional foods. Some foods yielded results that required reanalysis, and were thus not available in time for this Q1 report. The results for these foods will appear in the Q2 report.

**Table 2 Elements analysed for in the 2003/04 New Zealand Total Diet Survey**

<b>Element</b>	<b>Method of Analysis</b>	<b>Foods to be analysed</b>
Arsenic (As)	ICP-MS	All, except fats & oils
Cadmium (Cd)	ICP-MS	All
Iodine (I)	ICP-MS	All
Iron (Fe)	ICP-OES	All
Lead (Pb)	ICP-MS	All
Mercury(Hg)	ICP-MS	All, except grains and high fat foods
Selenium (Se)	ICP-MS	All, except fats & oils
Sodium	ICP-OES	All

ICP-MS = inductively-coupled plasma mass spectrometry

ICP-OES = inductively-coupled plasma optical emission spectrometry



## **4 ANALYTICAL RESULTS**

### **4.1 Analytical Quality Control**

Trace analyses of a wide range of complex analytes in a variety of complex matrices is an exacting science. A summary of the quality control procedures employed to provide confidence in the methodology and robustness of results is given in Appendix 3.

### **4.2 Elements**

For the elements analysed, results are reported per analyte for all foods analysed in this quarter. For some elements, not all foods sampled in Q1 have been analysed. These cases are those in which existing information suggests there is little likelihood of the element being detected using the current analytical methodologies eg mercury in bread.

All elemental results reported are on a 'foods as consumed' basis. Moisture contents of the foods have also been separately determined, but are not detailed in this report.

Where no results are reported/recorded in the results tables, this is because either;

- samples were not analysed for that food/analyte combination,
- results are not available at time of reporting, but will be included in a subsequent NZTDS analytical results report.

Elements are naturally occurring and ubiquitous in our environment. As such, if the concentration of a certain element in a food is 'not detected', it is highly likely that it is present, but at levels less than the limit of detection. For this reason, international convention for 'not detected' results for elements is to report them as 'less than the limit of detection'. For example, arsenic in apple is not detected, with a limit of detection of 0.002 mg/kg. This is reported as <0.002 mg/kg.

#### 4.2.1 Total Arsenic

**Table 3 Total arsenic content (mg/kg) of foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	< 0.002	< 0.002	< 0.002	< 0.002
Avocado	0.004	< 0.002	< 0.002	< 0.002
Bacon	0.005	0.006	0.005	0.006
Beef, mince	0.007	0.009	0.005	0.006
Beef, rump	0.007	0.009	0.005	0.007
Bread, mixed grain	< 0.005	0.008	< 0.005	< 0.005
Bread, wheatmeal	0.008	0.022	< 0.005	< 0.005
Bread, white	< 0.005	0.010	< 0.005	< 0.005
Broccoli/cauliflower	< 0.002	< 0.002	< 0.002	< 0.002
Butter	< 0.010	< 0.010	< 0.010	< 0.010
Cabbage	< 0.002	< 0.002	< 0.002	< 0.002
Cake	< 0.005	< 0.005	< 0.005	< 0.005
Capsicum	< 0.002	< 0.002	< 0.002	< 0.002
Carrot	< 0.002	< 0.002	< 0.002	< 0.002
Celery	< 0.002	< 0.002	< 0.002	< 0.002
Chicken takeaway	0.007	0.008	0.003	0.007
Chinese dish	0.013	0.004	0.005	0.009
Coffee beans, ground	< 0.001	< 0.001	< 0.001	< 0.001
Corned beef	0.003	0.004	0.004	0.003
Courgette	< 0.002	< 0.002	< 0.002	< 0.002
Cream	< 0.002	< 0.002	< 0.002	< 0.002
Cucumber	< 0.002	< 0.002	0.002	0.004
Egg	0.007	0.008	0.010	0.009
Fish, battered	0.663	2.130	2.140	1.080
Fish, fresh	2.080	3.380	3.050	3.440
Grapes	< 0.002	0.003	0.011	< 0.002
Ham	0.005	0.006	0.007	0.003
Hamburger, plain	0.006	0.010	0.012	0.008
Kiwifruit	< 0.002	< 0.002	< 0.002	< 0.002
Kumara	< 0.002	< 0.002	< 0.002	< 0.002
Lamb/mutton	< 0.002	< 0.002	< 0.002	< 0.002
Lambs liver	0.011	0.004	0.005	0.017
Lettuce	< 0.002	< 0.002	< 0.002	< 0.002
Meat pie	0.006	0.004	< 0.002	< 0.002
Melons	< 0.002	< 0.002	< 0.002	< 0.002
Milk, 0.5% fat	< 0.001	< 0.001	< 0.001	< 0.001
Milk, 3.25% fat	< 0.001	< 0.001	< 0.001	< 0.001
Milk, flavoured	< 0.001	< 0.001	< 0.001	< 0.001

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	< 0.005	< 0.005	< 0.005	< 0.005
Mushrooms	0.088	0.076	0.111	0.137
Mussels	1.950	1.580	1.870	1.890
Nectarine	0.005	< 0.002	< 0.002	< 0.002
Onion	< 0.002	< 0.002	< 0.002	< 0.002
Orange	< 0.002	< 0.002	< 0.002	< 0.002
Oysters	2.060	1.580	1.810	1.970
Pear	< 0.002	< 0.002	< 0.002	0.004
Pizza	0.012	0.011	0.008	0.007
Pork chop	0.008	0.008	0.006	0.005
Potato, hot chips	< 0.002	< 0.002	0.004	< 0.002
Potatoes, peeled	0.004	< 0.002	0.003	< 0.002
Potatoes, with skin	< 0.002	0.002	0.002	0.003
Pumpkin	< 0.002	< 0.002	< 0.002	< 0.002
Sausages	0.005	0.003	0.005	0.002
Silverbeet	< 0.002	< 0.002	< 0.002	< 0.002
Strawberries	0.002	0.002	< 0.002	0.003
Taro	< 0.002	< 0.002	< 0.002	0.003
Tomato	< 0.002	< 0.002	< 0.002	< 0.002
Water	< 0.001	0.002	< 0.001	< 0.001

Limit of detection for total arsenic = 0.001 mg/kg (water or liquid) / 0.002 mg/kg (high moisture, solid samples) / 0.005 mg/kg (semi moist) / or 0.010 mg/kg (fatty, low moisture solid samples).

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.2.2 Cadmium

**Table 4 Cadmium content (mg/kg) of foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Avocado	0.0209	0.0227	0.0061	0.0362
Bacon	< 0.0004	0.0004	< 0.0004	0.0004
Beef, mince	0.0004	< 0.0004	< 0.0004	< 0.0004
Beef, rump	< 0.0004	0.0006	< 0.0004	< 0.0004
Bread, mixed grain	0.0120	0.0140	0.0328	0.0190
Bread, wheatmeal	0.0120	0.0104	0.0230	0.0270
Bread, white	0.0130	0.0080	0.0210	0.0195
Broccoli/cauliflower	0.0094	0.0065	0.0059	0.0039
Butter	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Cabbage	0.0017	0.0024	0.0037	0.007
Cake	0.0030	0.0070	0.0060	0.0050
Capsicum	0.0091	0.0027	0.0033	0.0043
Carrot	0.0246	0.0364	0.0286	0.0459
Celery	0.0269	0.0070	0.0064	0.0122
Chicken takeaway	0.0019	0.0018	0.0041	0.0025
Chinese dish	0.0098	0.0038	0.0041	0.0070
Coffee beans, ground	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Corned beef	0.0012	0.0013	0.0022	0.0012
Courgette	0.0009	0.0007	0.0009	0.0008
Cream	< 0.0005	< 0.0005	< 0.0004	< 0.0004
Cucumber	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Egg	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Fish, battered	0.0057	0.0029	0.0062	0.0051
Fish, fresh	0.0008	0.0011	0.0019	0.0022
Grapes	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Ham	0.0024	0.0018	0.0025	0.0019
Hamburger, plain	0.0094	0.0080	0.0105	0.0113
Kiwifruit	0.0003	0.0002	0.0004	0.0003
Kumara	0.0042	0.0071	0.0055	0.0041
Lamb/mutton	< 0.0004	< 0.0004	< 0.0004	0.0005
Lambs liver	0.1330	0.1160	0.1380	0.1150
Lettuce	0.0125	0.0142	0.0079	0.0296
Meat pie	0.0040	0.0058	0.0082	0.0082
Melons	0.0030	0.0020	0.0030	0.0035
Milk, 0.5% fat	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Milk, 3.25% fat	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Milk, flavoured	0.0010	0.0004	0.0003	0.0003

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	0.0080	0.0050	0.0050	0.0090
Mushrooms	0.0046	0.0036	0.0038	0.0055
Mussels	0.0775	0.1050	0.2070	0.3550
Nectarine	0.0009	0.0010	0.0015	0.0015
Onion	0.0212	0.0194	0.0109	0.0342
Orange	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Oysters	0.9100	4.4000	4.8900	5.3200
Pear	0.0017	0.0022	0.0009	0.0028
Pizza	0.0073	0.0072	0.0127	0.0129
Pork chop	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Potato, hot chips	0.0330	0.0601	0.0270	0.0328
Potatoes, peeled	0.0173	0.0216	0.0300	0.0276
Potatoes, with skin	0.0274	0.0444	0.0412	0.0343
Pumpkin	0.0163	0.0060	0.0176	0.0108
Sausages	0.0038	0.0041	0.0053	0.0068
Silverbeet	0.0102	0.0139	0.0199	0.0146
Strawberries	0.0016	0.0050	0.0015	0.0015
Taro	0.0331	0.0091	0.0070	0.0096
Tomato	0.0022	< 0.0004	0.0046	0.0067
Water	< 0.00005	< 0.00005	< 0.00005	< 0.00005

Limit of detection for cadmium = 0.00005 mg/kg (water) / 0.0002 mg/kg (liquid) / 0.0004 mg/kg (high moisture) / 0.0020 mg/kg (fatty, low moisture sample).

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

### 4.2.3 Iodine

**Table 5 Iodine content (mg/kg) of foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	< 0.002	0.007	< 0.002	< 0.002
Avocado	< 0.002	< 0.002	< 0.002	< 0.002
Bacon	0.010	0.011	0.008	0.012
Beef, mince	0.006	0.012	0.007	0.006
Beef, rump	0.007	0.010	0.006	0.007
Bread, mixed grain	0.007	0.010	< 0.005	0.006
Bread, wheatmeal	< 0.005	< 0.005	< 0.005	< 0.005
Bread, white	0.007	< 0.005	< 0.005	< 0.005
Broccoli/cauliflower	0.003	< 0.002	< 0.002	< 0.002
Butter	0.012	0.016	0.013	0.011
Cabbage	< 0.002	< 0.002	< 0.002	< 0.002
Cake	0.097	0.131	0.138	0.126
Capsicum	< 0.002	< 0.002	< 0.002	< 0.002
Carrot	< 0.002	< 0.002	< 0.002	0.003
Celery	0.012	0.004	< 0.002	0.003
Chicken takeaway	0.009	0.010	0.116	0.005
Chinese dish	0.026	0.008	0.240	0.009
Coffee beans, ground	< 0.001	< 0.001	< 0.001	< 0.001
Corned beef	0.016	0.016	0.019	0.015
Courgette	< 0.002	0.002	< 0.002	< 0.002
Cream	0.045	0.058	0.182	0.073
Cucumber	< 0.002	< 0.002	< 0.002	< 0.002
Egg	0.510	0.690	0.452	0.458
Fish, battered	0.062	0.368	0.456	0.039
Fish, fresh	0.123	0.251	0.117	0.135
Grapes	< 0.002	0.004	0.002	< 0.002
Ham	0.031	0.047	0.028	0.033
Hamburger, plain	0.006	0.079	0.008	0.005
Kiwifruit	< 0.002	< 0.002	< 0.002	< 0.002
Kumara	0.003	< 0.002	< 0.002	0.003
Lamb/mutton	0.007	0.010	0.007	0.034
Lambs liver	0.074	0.048	0.049	0.151
Lettuce	0.004	< 0.002	0.003	0.003
Meat pie	0.010	0.008	0.008	0.007
Melons	< 0.002	< 0.002	< 0.002	< 0.002
Milk, 0.5% fat	0.093	0.081	0.062	0.357
Milk, 3.25% fat	0.072	0.075	0.101	0.235
Milk, flavoured	0.101	0.073	0.054	0.066

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	0.057	0.093	0.105	0.079
Mushrooms	0.006	0.002	0.002	< 0.002
Mussels	1.150	3.340	1.010	1.230
Nectarine	< 0.002	< 0.002	< 0.002	< 0.002
Onion	0.004	0.004	0.004	0.008
Orange	< 0.002	< 0.002	< 0.002	< 0.002
Oysters	0.783	1.380	0.935	1.080
Pear	< 0.002	< 0.002	< 0.002	< 0.002
Pizza	0.017	0.023	0.060	0.023
Pork chop	0.012	0.009	0.006	0.004
Potato, hot chips	0.016	0.150	0.257	< 0.002
Potatoes, peeled	0.003	0.003	0.003	0.004
Potatoes, with skin	0.011	0.007	0.027	0.019
Pumpkin	< 0.002	< 0.002	< 0.002	< 0.002
Sausages	0.079	0.041	0.072	0.021
Silverbeet	0.058	0.036	< 0.002	< 0.002
Strawberries	< 0.002	0.003	< 0.002	< 0.002
Taro	0.007	0.008	0.012	0.009
Tomato	< 0.002	< 0.002	0.002	< 0.002
Water	0.002	0.004	0.002	< 0.001

Limit of detection for iodine = 0.001 mg/kg (water or liquid) / 0.002 mg/kg (high moisture samples) / 0.005 mg/kg (semi-moist) / 0.010 mg/kg (fatty, low moisture samples).

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.2.4 Iron

**Table 6 Iron content (mg/kg) of foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	0.9	1.0	1.0	0.8
Avocado	4.7	3.6	4.4	6.3
Bacon	5.6	5.7	7.0	5.4
Beef, mince	29.3	25.7	24.1	27.8
Beef, rump	33.4	47.0	36.5	38.5
Bread, mixed grain	14.2	15.4	26.2	13.9
Bread, wheatmeal	19.4	18.0	14.6	19.5
Bread, white	7.6	11.1	39.2	8.3
Broccoli/cauliflower	5.0	4.8	5.8	5.9
Butter	< 1.0	< 1.0	< 1.0	< 1.0
Cabbage	2.1	3.2	4.3	3.3
Cake	6.8	11.2	10.4	9.8
Capsicum	1.5	1.4	1.9	1.5
Carrot	1.1	1.2	1.3	1.3
Celery	0.7	1.2	0.7	0.8
Chicken takeaway	6.2	6.4	10.1	6.9
Chinese dish	5.1	4.6	4.9	5.8
Coffee beans, ground	< 0.1	< 0.1	< 0.1	< 0.1
Corned beef	15.6	18.7	18.5	20.9
Courgette	2.8	2.4	2.0	2.3
Cream	0.5	0.5	0.4	0.5
Cucumber	1.1	1.4	1.3	1.3
Egg	9.9	9.5	9.6	11
Fish, battered	3.9	2.9	2.9	2.1
Fish, fresh	2.1	1.4	1.6	3.3
Grapes	2.5	4.2	3.1	2.7
Ham	7.8	7.5	6.8	7.3
Hamburger, plain	16.2	14.5	17.2	14.2
Kiwifruit	2.7	2.0	2.1	2.1
Kumara	4.6	4.2	3.8	4.8
Lamb/mutton	16.3	25.7	35.2	34.2
Lambs liver	158.0	130.0	115.0	435.0
Lettuce	3.2	3.2	2.3	4.1
Meat pie	8.8	7.6	7.9	8.7
Melons	1.4	1.7	2.2	2.2
Milk, 0.5% fat	<0.1	0.2	<0.1	<0.1
Milk, 3.25% fat	0.2	<0.1	<0.1	<0.1
Milk, flavoured	2.1	0.5	0.6	0.7



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	19.5	8.3	7.6	11.8
Mushrooms	1.5	2.4	1.9	2.0
Mussels	88.4	115.0	154.0	96.7
Nectarine	1.3	1.2	1.7	1.5
Onion	1.6	1.6	1.9	2.2
Orange	1.0	1.2	0.9	1.1
Oysters	38.4	103.0	20.6	28.3
Pear	1.5	0.7	1.3	0.8
Pizza	8.9	8.1	7.1	8.1
Pork chop	8.6	9.3	7.2	7.9
Potato, hot chips	6.0	8.1	9.2	8.2
Potatoes, peeled	2.7	3.3	3.8	3.4
Potatoes, with skin	4.9	6.1	5.9	5.5
Pumpkin	2.2	2.0	2.2	2.2
Sausages	13.7	13.5	16.3	14.4
Silverbeet	5.9	8.8	5.5	5.4
Strawberries	2.5	2.4	1.9	2.0
Taro	7.6	2.3	6.4	8.2
Tomato	2.6	2.0	2.3	2.8
Water	< 0.02	< 0.02	< 0.02	< 0.02

Limit of detection for iron = 0.02 mg/kg (water) / 0.1 mg/kg (liquid) / 0.2 mg/kg (high moisture solid samples) / 1.0 mg/kg (fatty, low moisture samples).

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.2.5 Lead

**Table 7      Lead content (mg/kg) of foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	< 0.002	< 0.002	< 0.002	< 0.002
Avocado	< 0.002	< 0.002	< 0.002	< 0.002
Bacon	0.002	< 0.002	< 0.002	< 0.002
Beef, mince	< 0.002	< 0.002	0.002	0.002
Beef, rump	< 0.002	< 0.002	0.002	< 0.002
Bread, mixed grain	< 0.005	0.010	< 0.005	< 0.005
Bread, wheatmeal	0.007	0.006	0.007	< 0.005
Bread, white	0.005	< 0.005	0.005	< 0.005
Broccoli/cauliflower	0.003	< 0.002	< 0.002	< 0.002
Butter	< 0.010	< 0.010	< 0.010	< 0.010
Cabbage	< 0.002	< 0.002	< 0.002	< 0.002
Cake	< 0.005	0.011	0.009	0.007
Capsicum	< 0.002	< 0.002	< 0.002	< 0.002
Carrot	0.003	< 0.002	0.005	< 0.002
Celery	< 0.002	< 0.002	< 0.002	< 0.002
Chicken takeaway	0.004	0.004	0.004	0.006
Chinese dish	0.003	0.004	0.003	0.003
Coffee beans, ground	< 0.001	< 0.001	< 0.001	< 0.001
Corned beef	0.004	0.004	0.007	0.003
Courgette	< 0.002	< 0.002	< 0.002	0.002
Cream	< 0.002	< 0.002	< 0.002	< 0.002
Cucumber	< 0.002	< 0.002	< 0.002	< 0.002
Egg	< 0.002	< 0.002	< 0.002	< 0.002
Fish, battered	0.005	0.003	0.002	< 0.002
Fish, fresh	0.006	0.005	< 0.002	< 0.002
Grapes	< 0.002	< 0.002	< 0.002	< 0.002
Ham	0.003	0.005	0.004	0.006
Hamburger, plain	0.004	0.004	0.003	0.007
Kiwifruit	< 0.002	< 0.002	< 0.002	< 0.002
Kumara	< 0.002	< 0.002	< 0.002	< 0.002
Lamb/mutton	< 0.002	< 0.002	< 0.002	< 0.002
Lambs liver	0.032	0.020	0.031	0.040
Lettuce	< 0.002	< 0.002	< 0.002	0.003
Meat pie	0.005	0.002	0.002	0.003
Melons	< 0.002	< 0.002	< 0.002	< 0.002
Milk, 0.5% fat	< 0.001	< 0.001	< 0.001	< 0.001
Milk, 3.25% fat	< 0.001	0.001	< 0.001	< 0.001
Milk, flavoured	0.002	< 0.001	< 0.001	< 0.001

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	0.010	0.007	0.018	0.007
Mushrooms	< 0.002	0.006	< 0.002	< 0.002
Mussels	0.123	0.099	0.139	0.087
Nectarine	< 0.002	< 0.002	< 0.002	< 0.002
Onion	< 0.002	< 0.002	< 0.002	< 0.002
Orange	< 0.002	0.002	< 0.002	< 0.002
Oysters	0.084	0.092	0.027	0.033
Pear	0.003	< 0.002	< 0.002	< 0.002
Pizza	0.005	0.005	0.005	0.004
Pork chop	< 0.002	< 0.002	< 0.002	< 0.002
Potato, hot chips	< 0.002	< 0.002	0.004	< 0.002
Potatoes, peeled	< 0.002	< 0.002	< 0.002	< 0.002
Potatoes, with skin	< 0.002	0.004	< 0.002	< 0.002
Pumpkin	0.002	< 0.002	0.003	< 0.002
Sausages	0.003	0.003	0.002	0.004
Silverbeet	0.008	0.007	0.003	0.006
Strawberries	< 0.002	0.007	< 0.002	< 0.002
Taro	< 0.002	0.005	0.004	0.007
Tomato	< 0.002	< 0.002	< 0.002	< 0.002
Water	< 0.0001	< 0.0001	< 0.0001	< 0.0001

Limit of detection for lead = 0.0001 mg/kg (water) / 0.001 mg/kg (liquid) / 0.002 mg/kg (high moisture) / or 0.005 mg/kg (semi-moist) / 0.010 mg/kg (fatty, low moisture solid samples)

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.2.6 Mercury

**Table 8 Total mercury content (mg/kg) of foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	< 0.002	< 0.002	< 0.002	< 0.002
Avocado	< 0.002	< 0.002	< 0.002	< 0.002
Bacon	< 0.002	< 0.002	0.002	< 0.002
Beef, mince	< 0.002	< 0.002	< 0.002	< 0.002
Beef, rump	< 0.002	< 0.002	< 0.002	< 0.002
Bread, mixed grain	NA	NA	NA	NA
Bread, wheatmeal	NA	NA	NA	NA
Bread, white	NA	NA	NA	NA
Broccoli/cauliflower	< 0.002	< 0.002	< 0.002	< 0.002
Butter	NA	NA	NA	NA
Cabbage	< 0.002	< 0.002	< 0.002	< 0.002
Cake	NA	NA	NA	NA
Capsicum	< 0.002	< 0.002	< 0.002	< 0.002
Carrot	< 0.002	< 0.002	< 0.002	< 0.002
Celery	< 0.002	< 0.002	< 0.002	< 0.002
Chicken takeaway	< 0.002	< 0.002	< 0.002	< 0.002
Chinese dish	< 0.002	< 0.002	< 0.002	< 0.002
Coffee beans, ground	< 0.001	< 0.001	< 0.001	< 0.001
Corned beef	< 0.002	< 0.002	< 0.002	< 0.002
Courgette	< 0.002	< 0.002	< 0.002	< 0.002
Cream	NA	NA	NA	NA
Cucumber	< 0.002	< 0.002	< 0.002	< 0.002
Egg	0.003	< 0.002	0.003	< 0.002
Fish, battered	0.109	0.153	0.361	0.153
Fish, fresh	0.115	0.199	0.072	0.168
Grapes	< 0.002	< 0.002	< 0.002	< 0.002
Ham	< 0.002	< 0.002	< 0.002	< 0.002
Hamburger, plain	< 0.002	< 0.002	< 0.002	< 0.002
Kiwifruit	< 0.002	< 0.002	< 0.002	< 0.002
Kumara	< 0.002	< 0.002	< 0.002	< 0.002
Lamb/mutton	< 0.002	< 0.002	< 0.002	< 0.002
Lambs liver	0.003	< 0.002	0.004	0.005
Lettuce	< 0.002	< 0.002	< 0.002	< 0.002
Meat pie	< 0.002	< 0.002	< 0.002	< 0.002
Melons	< 0.002	< 0.002	< 0.002	< 0.002
Milk, 0.5% fat	< 0.001	< 0.001	< 0.001	< 0.001
Milk, 3.25% fat	< 0.001	< 0.001	< 0.001	< 0.001
Milk, flavoured	< 0.001	< 0.001	< 0.001	< 0.001

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	NA	NA	NA	NA
Mushrooms	< 0.002	< 0.002	< 0.002	< 0.002
Mussels	0.025	0.029	0.011	0.019
Nectarine	< 0.001	< 0.001	< 0.001	< 0.001
Onion	< 0.002	< 0.002	< 0.002	< 0.002
Orange	< 0.002	< 0.002	< 0.002	< 0.002
Oysters	0.009	0.014	0.009	0.015
Pear	< 0.002	< 0.002	< 0.002	< 0.002
Pizza	< 0.002	< 0.002	< 0.002	< 0.002
Pork chop	< 0.002	< 0.002	< 0.002	< 0.002
Potato, hot chips	< 0.002	< 0.002	< 0.002	< 0.002
Potatoes, peeled	< 0.002	< 0.002	< 0.002	< 0.002
Potatoes, with skin	< 0.002	< 0.002	< 0.002	< 0.002
Pumpkin	< 0.002	< 0.002	< 0.002	< 0.002
Sausages	< 0.002	< 0.002	< 0.002	< 0.002
Silverbeet	< 0.002	< 0.002	< 0.002	< 0.002
Strawberries	< 0.002	< 0.002	< 0.002	< 0.002
Taro	< 0.002	< 0.002	< 0.002	< 0.002
Tomato	< 0.002	< 0.002	< 0.002	< 0.002
Water	< 0.00008	< 0.00008	< 0.00008	< 0.00008

NA – not analysed. These cases are those in which existing information suggests there is little likelihood of the element being detected using the current analytical methodologies eg mercury in bread.

Limit of detection for total mercury = 0.00008 mg/kg (water) / 0.001 mg/kg (liquid) / 0.002 mg/kg (high moisture) / 0.005 mg/kg (semi-moist) / 0.010 mg/kg (fatty, low moisture solid samples)

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.2.7 Selenium

**Table 9 Selenium content (mg/kg) of foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	< 0.004	< 0.004	< 0.004	< 0.004
Avocado	< 0.004	< 0.004	0.010	0.005
Bacon	0.147	0.118	0.127	0.127
Beef, mince	0.065	0.062	0.028	0.068
Beef, rump	0.081	0.064	0.051	0.086
Bread, mixed grain	0.050	0.042	< 0.010	0.011
Bread, wheatmeal	0.054	0.046	< 0.010	< 0.010
Bread, white	0.022	0.038	< 0.010	< 0.010
Broccoli/cauliflower	0.016	0.009	< 0.004	< 0.004
Butter	< 0.020	< 0.020	< 0.020	< 0.020
Cabbage	< 0.004	< 0.004	< 0.004	< 0.004
Cake	0.060	0.071	0.075	0.085
Capsicum	< 0.004	< 0.004	< 0.004	< 0.004
Carrot	< 0.004	< 0.004	< 0.004	< 0.004
Celery	< 0.004	< 0.004	< 0.004	< 0.004
Chicken takeaway	0.135	0.123	0.055	0.084
Chinese dish	0.061	0.035	0.035	0.026
Coffee beans, ground	< 0.002	< 0.002	< 0.002	< 0.002
Corned beef	0.036	0.043	0.045	0.051
Courgette	< 0.004	< 0.004	< 0.004	< 0.004
Cream	0.004	0.006	0.006	0.005
Cucumber	< 0.004	< 0.004	< 0.004	< 0.004
Egg	0.249	0.242	0.309	0.294
Fish, battered	0.287	0.346	0.307	0.420
Fish, fresh	0.370	0.487	0.443	0.508
Grapes	< 0.004	< 0.004	< 0.004	< 0.004
Ham	0.153	0.147	0.163	0.112
Hamburger, plain	0.037	0.077	0.093	0.066
Kiwifruit	< 0.004	< 0.004	0.007	0.008
Kumara	< 0.004	< 0.004	< 0.004	< 0.004
Lamb/mutton	0.038	0.048	0.055	0.048
Lambs liver	0.230	0.216	0.220	0.244
Lettuce	< 0.004	< 0.004	< 0.004	< 0.004
Meat pie	0.045	0.037	0.016	0.014
Melons	< 0.004	< 0.004	< 0.004	< 0.004
Milk, 0.5% fat	0.013	0.009	0.012	0.008
Milk, 3.25% fat	0.008	0.010	0.007	0.008
Milk, flavoured	0.009	0.008	0.006	0.009

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	0.055	0.056	0.036	0.034
Mushrooms	0.336	0.182	0.206	0.279
Mussels	0.609	0.607	0.524	0.537
Nectarine	< 0.004	< 0.004	< 0.004	< 0.004
Onion	0.008	< 0.004	0.021	< 0.004
Orange	< 0.004	< 0.004	< 0.004	< 0.004
Oysters	0.372	0.518	0.302	0.309
Pear	< 0.004	< 0.004	< 0.004	< 0.004
Pizza	0.092	0.07	0.056	0.063
Pork chop	0.138	0.157	0.183	0.134
Potato, hot chips	< 0.004	< 0.004	< 0.004	< 0.004
Potatoes, peeled	0.017	< 0.004	0.005	0.006
Potatoes, with skin	0.020	0.005	0.010	0.010
Pumpkin	< 0.004	< 0.004	< 0.004	< 0.004
Sausages	0.057	0.043	0.054	0.038
Silverbeet	0.015	0.009	< 0.004	< 0.004
Strawberries	< 0.004	< 0.004	< 0.004	< 0.004
Taro	< 0.004	< 0.004	< 0.004	< 0.004
Tomato	< 0.004	< 0.004	< 0.004	< 0.004
Water	< 0.001	< 0.001	< 0.001	< 0.001

Limit of detection for selenium = 0.001 mg/kg (water) / 0.002 mg/kg (liquid) / 0.004 mg/kg (high moisture samples) / 0.010 mg/kg (semi-moist samples) / 0.020 mg/kg (fatty, low moisture samples).

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.2.8 Sodium

**Table 10 Sodium content (mg/kg) of foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	27	11	11	< 10
Avocado	68	74	71	93
Bacon	17900	17600	13200	18900
Beef, mince	895	859	717	772
Beef, rump	740	673	776	739
Bread, mixed grain	4180	3970	4130	3900
Bread, wheatmeal	5720	5020	4780	4740
Bread, white	5320	5470	5180	5010
Broccoli/cauliflower	40	47	39	58
Butter	5370	5770	5410	5490
Cabbage	55	62	35	75
Cake	3750	3270	3830	3850
Capsicum	12	< 10	< 10	< 10
Carrot	238	213	554	402
Celery	294	843	376	469
Chicken takeaway	6990	6530	7020	6720
Chinese dish	3750	5430	4320	3590
Coffee beans, ground	< 5	< 5	< 5	< 5
Corned beef	7500	7930	8140	7290
Courgette	< 10	< 10	< 10	< 10
Cream	248	248	260	244
Cucumber	< 10	16	27	17
Egg	1490	1455	1430	1530
Fish, battered	2470	1520	2150	1920
Fish, fresh	624	766	747	542
Grapes	25	69	13	17
Ham	12300	14200	12100	13300
Hamburger, plain	4730	4170	3760	5090
Kiwifruit	22	14	12	21
Kumara	218	138	83	163
Lamb/mutton	1090	889	972	1030
Lambs liver	1010	929	1040	1070
Lettuce	36	28	23	55
Meat pie	4085	4040	4280	4650
Melons	137	107	57	105
Milk, 0.5% fat	409	417	398	430
Milk, 3.25% fat	403	389	392	390
Milk, flavoured	611	364	400	386



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	4980	4510	4420	3760
Mushrooms	63	64	50	46
Mussels	2790	4550	3670	4530
Nectarine	< 10	< 10	< 10	< 10
Onion	12	23	21	29
Orange	16	37	18	20
Oysters	3010	6910	4520	4780
Pear	11	< 10	10	< 10
Pizza	6010	6040	5770	5250
Pork chop	864	909	799	922
Potato, hot chips	2490	2220	2480	2100
Potatoes, peeled	28	24	27	23
Potatoes, with skin	33	26	27	28
Pumpkin	< 10	< 10	< 10	< 10
Sausages	7455	6250	9180	8030
Silverbeet	518	665	531	766
Strawberries	< 10	101	< 10	< 10
Taro	< 10	< 10	10	23
Tomato	28	26	90	53
Water	9.5	10.2	8.0	5.8

Limit of detection for sodium = 1.0 mg/kg (water) / 5 mg/kg (liquid) / 10 mg/kg (high moisture) / 20 mg/kg (semi-moist) / 50 mg/kg (high fat, low moisture).

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

### 4.3 Agricultural Compound Residues

For agricultural compounds, results are reported in four sections; multi-residue pesticides screened for but not detected (which for brevity are listed collectively on one page); each pesticide detected is reported on a per pesticide basis for all foods screened; dithiocarbamate fungicides and acid herbicides.

All agricultural compound results in the NZTDS are reported on a 'foods as consumed' basis. Moisture contents of the foods have been separately determined, but are not detailed in this report.

Where no results are reported/recorded in the results tables, this is because either;

- samples were not analysed for that food/analyte combination,
- results are not available at time of reporting, but will be included in a subsequent NZTDS analytical results report.

Pesticides are applied to specific foods, often under specific conditions or only at certain times. Different producers of a particular crop will not necessarily use the same pesticides to perform the same tasks. This specificity suggests that residues will only be present in specific foods, rather than as ubiquitous contaminants present in all food groups. In addition, many pesticides are known to break down rapidly in the environment. Therefore, for most pesticides in most foods, a "not detected" result is likely to represent a true zero result.

4.3.1 Multi-residue pesticides screened for but not detected in any food in Q1 of 2003/04 NZTDS

**Table 11 Multi-residue pesticides screened for but not detected in any food in Q1 of 2003/04 NZTDS**

Acephate	DDT, 4,4'	Folpet	Phorate sulphone
Acetochlor	Deltamethrin	Furalaxyl	Phorate sulphoxide
Alachlor	Demeton-s-methyl	Furathiocarb	Phosalone
Aldrin	Dichlobenil	Halxyfop-methyl	Phosphamidon-a
Atrazine	Dichlofenthion	HCB	Phosphamidon-b
Azaconazole	Dichlorvos	Heptachlor	Piperonyl butoxide
Benalaxyl	Dicloran	Heptachlor endo epoxide	Prochloraz
Bendiocarb	Dicrotophos	Heptachlor exo epoxide	Prometryn
Benodanyl	Diflufenican	Heptenophos	Propachlor
BHC - a	Dimethenamid	Hexaconazole	Propargite 1+2
BHC - b	Dimethomorph	Hexazinone	Propetamphos
Binapacryl	Diphenamid	Indoxacarb	Propiconazole-cis
Bitertanol	Disulfoton	Iodophenphos	Propiconazole-trans
Bromacil	Endrin	Isazophos	Propoxur
Bromophos(methyl)	EPN	Isofenphos	Propyzamide
Bromophos-ethyl	Epoxiconazole	Isoproturon	Prothiophos
Bromopropylate	EPTC	Kresoxim-methyl	Pyrazophos
Bupirimate	Esfenvalerate	Lindane	Pyriproxyfen
Carbofuran	Ethion	Linuron	Quintozene
Carboxin	Etridiazole	Methacrifos	Quizalofop-ethyl
Chlordane-cis	Etrimphos	Methidathion	Simazine
Chlordane-trans	Famphur	Methiocarb	Terbacil
Chlorfenvinphos	Fenarimol	Metolachlor	Terbufos
Chlorfluazuron	Fenchlorphos	Metribuzin	Terbuthylazine
Chloridazon	Fenoxycarb	Mevinphos	Terbutryn
Chlornitrofen	Fenpiclonil	Monocrotophos	Tetradifon
Chlorobenzilate	Fenpropathrin	Napropamide	Thiometon
Chlorthal-dimethyl	Fenpropimorph	Nitrofen	Tolclofos-methyl
Chlozolinate	Fensulfothion	Nitrothal-isopropyl	Tralkoxydim
Clomazone	Fenthion	Norflurazon	Trebumeton
Coumaphos	Fenvalerate	Oxadiazon	Triademefon
Cyanazine	Fipronil	Oxadixyl	Triademenol
Cyfluthrin	Flamprop-methyl	Oxyfluorfen	Triallate
Cyhalothrin-g	Fluazifop-butyl	Paclobutrazol	Triazophos
Cyhalothrin-l	Fluazinam	Parathion(-ethyl)	Trifloxystrobin
Cypermethrin	Fluometuron	Parathion-methyl	Trifluralin
Cyproconazole	Flusilasole	Pendimethalin	Vinclozolin
DDD, 2,4'	Flutriafol	Permethrin-cis	
DDE, 2,4'	Fluvalinate-D	Permethrin-trans	
DDT, 2,4'	Fluvalinate-DL	Phorate	

#### 4.3.2 Azinphos-methyl

**Table 12 Azinphos-methyl residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	0.011	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for azinphos-methyl = 0.010 mg/kg (most samples).

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

### 4.3.3 Azoxystrobin

**Table 13 Azoxystrobin residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	0.024	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for azoxystrobin = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.3.4 Bifenthrin

**Table 14 Bifenthrin residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	0.058	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for bifenthrin = 0.006 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.3.5 Buprofezin

**Table 15** Buprofezin residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	0.011	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for buprofezin = 0.010 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.3.6 Captan

**Table 16      Captan residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	0.021	ND	ND	0.383
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	2.74	ND	2.32	2.42
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for captan = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.3.7 Carbaryl

**Table 17 Carbaryl residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	0.026	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	0.100
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	0.391	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for carbaryl = 0.004 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.3.8 Chlorothalonil

**Table 18 Chlorothalonil residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	0.025	0.033	0.014
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	0.010
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	0.009	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for chlorothalonil = 0.006 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.3.9 Chlorpropham

**Table 19 Chlorpropham residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	0.073	0.080	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for chlorpropham = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.3.10 Chlorpyrifos

**Table 20 Chlorpyrifos residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	0.012
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	0.011	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for chlorpyrifos = 0.006 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.11 Chlorpyriphos-methyl

**Table 21 Chlorpyriphos-methyl residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	0.040	0.038	0.012	0.015
Bread, wheatmeal	0.141	0.083	ND	0.016
Bread, white	0.025	0.039	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	0.006	ND	0.017	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	0.063	0.025	ND	0.016
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for chlorpyrifos-methyl = 0.006 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

## 4.3.12 Cyprodinil

**Table 22** Cyprodinil residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	0.239
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	0.004	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for cyprodonil = 0.003 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.13 DDD, 4,4'**Table 23** DDD, 4,4' residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	0.005	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for DDD, 4,4' = 0.003 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

## 4.3.14 DDE, 4,4'

**Table 24 DDE, 4,4' residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	0.010	0.010	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	0.023	0.024	0.024	0.015
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	0.009	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	0.011	ND	ND	0.006
Courgette	ND	ND	ND	ND
Cream	0.006	0.011	0.041	0.022
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	0.011	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	0.007	ND	0.014	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	0.012	0.023
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for DDE, 4,4' = 0.005 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.15 Diazinon**Table 25 Diazinon residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	0.135	0.061
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for diazinon = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.16 Dichlofluanid**Table 26** Dichlofluanid residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	0.061
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	0.113	0.012
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for dichlofluanid = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.17 Dieldrin**Table 27** Dieldrin residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	0.023	0.011	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for dieldrin = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.18 Difenoconazole-cis**Table 28** Difenoconazole-cis residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	0.025	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	0.020	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for difenconazole-cis = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.19 Difenoconazole-trans**Table 29** Difenoconazole-trans residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	0.046	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	0.039	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting difenconazole-trans = 0.010 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.20 Dimethoate

**Table 30 Dimethoate residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	0.213	0.301	0.089	0.019
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	0.461	1.720	0.952	2.350
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	0.301
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	0.146	0.288	0.090
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for dimethoate = 0.010 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.21 Diphenylamine

**Table 31 Diphenylamine residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	0.038	0.248	0.070	0.012
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	0.007	0.009	0.008	0.007
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	0.003	ND	ND	0.002
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	0.004	0.005	0.008	0.009
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	0.535	1.140	0.348	0.728
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for diphenylamine = 0.002 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

## 4.3.22 Endosulfan, a-

**Table 32** Endosulfan, a- residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	0.022	ND	ND	0.010
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	0.011	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	0.093	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for endosulfan, a- = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.23 Endosulfan, b-**Table 33** Endosulfan, b-residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	0.048	ND	ND	0.011
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	0.059	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for endosulfan, b- = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.24 Endosulfan-sulphate**Table 34** Endosulfan-sulphate residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	0.019	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	0.034	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for endosulfan-sulphate = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

## 4.3.25 Ethoxyquin

**Table 35 Ethoxyquin residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	0.017	0.017	0.056	0.032
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	0.020	0.022	0.011	0.012
Fish, battered	ND	ND	ND	ND
Fish, fresh	0.700	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	0.010	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for ethoxyquin = 0.010 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

## 4.3.26 Fenitrothion

**Table 36 Fenitrothion residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	0.106	0.061	ND	ND
Bread, wheatmeal	0.570	0.299	ND	ND
Bread, white	0.060	0.142	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	0.035	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	0.019	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	0.033	0.026	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	0.066	0.022	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	0.161	0.060	0.021	0.030
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for fenitrothion = 0.010 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

## 4.3.27 Iprodione

**Table 37 Iprodione residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	0.090	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	0.370	0.132	0.386	0.270
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	0.150	ND	ND	0.017
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	0.114
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for iprodione = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.28 Malathion**Table 38 Malathion residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	0.012
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	0.011
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for malathion = 0.007 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.29 Metalaxyl**Table 39** Metalaxyl residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	0.028	0.010
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	0.012
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for metalaxyl = 0.010 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.30 Omethoate**Table 40 Omethoate residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	0.046	0.126	0.019	0.162
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	0.011
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for omethoate = 0.010 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.31 Penconazole**Table 41 Penconazole residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	0.008	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for penconazole = 0.004 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

## 4.3.32 Phosmet

**Table 42 Phosmet residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	0.035	ND	0.675	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for phosmet = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.33 Pirimicarb

**Table 43 Pirimicarb residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	0.023	0.082	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	0.009
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	0.977
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for pirimicarb = 0.007 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.34 Pirimiphos-methyl**Table 44 Pirimiphos-methyl residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	0.065	0.092	0.167	0.190
Bread, wheatmeal	0.034	0.045	0.149	0.272
Bread, white	0.053	0.029	0.084	0.082
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	0.016	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	0.021	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	0.010	0.011	0.017
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	0.027	ND	0.030	0.044
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	0.033
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	0.009	0.023	0.073	0.063
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	0.014	0.038	0.020	0.036
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for pirimiphos-methyl = 0.007 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

## 4.3.35 Procymidone

**Table 45 Procymidone residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	0.010	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	0.010	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	0.014
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for procymidone = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

## 4.3.36 Propazine

**Table 46 Propazine residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	0.012	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for propazine = 0.007 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.37 Propham

**Table 47 Propham residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	0.015	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	0.065	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	0.024	0.010
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	0.353	0.010	ND
Potatoes, peeled	ND	0.076	0.479	0.224
Potatoes, with skin	ND	0.186	1.040	0.266
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for propham = 0.010 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.38 Pyrimethanil**Table 48** Pyrimethanil residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	0.035	ND	ND	0.465
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for pyremethanil = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.39 Tebuconazole**Table 49** Tebuconazole residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	0.023	0.010
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for tebuconazole = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.3.40 Tebufenpyrad

**Table 50 Tebufenpyrad residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND



<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	0.012	ND	ND	0.029
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for tebufenpyrad = 0.010 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

4.3.41 Tetrachlorvinphos**Table 51** Tetrachlorvinphos residues (mg/kg) in foods in Q1 of 2003/04 NZTDS

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	0.009	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for tetrachlorvinphos = 0.006 mg/kg (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

## 4.3.42 Tolyfluanid

**Table 52 Tolyfluanid residues (mg/kg) in foods in Q1 of 2003/04 NZTDS**

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	ND	ND
Beef, rump	ND	ND	ND	ND
Bread, mixed grain	ND	ND	ND	ND
Bread, wheatmeal	ND	ND	ND	ND
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	ND
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	ND	ND	ND	ND
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	ND	ND	ND	ND
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	ND	ND	ND	0.319
Pizza	ND	ND	ND	ND
Pork chop	ND	ND	ND	ND
Potato, hot chips	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	ND
Strawberries	2.080	ND	2.420	0.396
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for tolylfluanid = 0.010 mg/kg (most samples).  
The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.3.43 Dithiocarbamate Fungicides

The level of dithiocarbamates in foods is generally analysed internationally in terms of the amount of carbon disulphide (CS<sub>2</sub>). The method is unable to differentiate which dithiocarbamate is present.

**Table 53 Dithiocarbamate fungicide content (mg/kg of CS<sub>2</sub>) of fruit and vegetable products in Q1 of 2003/04 NZTDS**

Food	Auckland	Napier	Christchurch	Dunedin
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Broccoli/cauliflower	0.08	0.02	0.03	0.01
Cabbage	0.04	0.02	0.06	0.05
Capsicum	ND	ND	ND	0.02
Carrot	ND	ND	ND	ND
Celery	0.02	0.05	0.02	0.01
Courgette	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lettuce	0.03	ND	ND	ND
Melons	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND
Onion	0.02	0.01	ND	0.01
Orange	ND	ND	ND	ND
Pear	0.02	0.01	ND	0.02
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Silverbeet	0.20	0.18	ND	ND
Strawberries	ND	ND	ND	0.01
Taro	ND	ND	ND	ND
Tomato	ND	0.02	ND	ND

ND = not detected. Limit of reporting = 0.01 mg/kg CS<sub>2</sub> (most samples). The LOR does vary with different matrices.

Note: Given limited sample numbers, comparisons between regional data are not appropriate.

#### 4.3.44 Acid Herbicides

**Table 54 Acid herbicide content (mg/kg) of foods analysed in Q1 of 2003/04 NZTDS**

Food	Auckland	Napier	Christchurch	Dunedin	Regional composite
Apple					ND
Avocado					
Bacon	ND	ND	ND	ND	
Beef, mince	ND	ND	ND	ND	
Beef, rump					
Bread, mixed grain					ND
Bread, wheatmeal					
Bread, white					
Broccoli/cauliflower					
Butter					
Cabbage					
Cake					
Capsicum					
Carrot					
Celery					
Chicken takeaway					
Chinese dish					
Coffee beans, ground					
Corned beef					
Courgette					
Cream					
Cucumber					
Egg	ND	ND	ND	ND	
Fish, battered					
Fish, fresh					
Grapes					
Ham					
Hamburger, plain					
Kiwifruit					
Kumara					
Lamb/mutton	ND	ND	ND	ND	
Lambs liver					
Lettuce					
Meat pie					
Melons					
Milk, 0.5% fat					
Milk, 3.25% fat					ND
Milk, flavoured					

<b>Food</b>	<b>Auckland</b>	<b>Napier</b>	<b>Christchurch</b>	<b>Dunedin</b>	<b>Regional composite</b>
Muffin					
Mushrooms					
Mussels					
Nectarine					
Onion					
Orange					
Oysters					
Pear					
Pizza					
Pork chop					
Potato, hot chips					
Potatoes, peeled					ND
Potatoes, with skin					
Pumpkin					
Sausages					
Silverbeet					
Strawberries					ND
Taro					
Tomato					ND
Water	ND	ND	ND	ND	

The acid herbicides (AH) involved a separate screen which included 18 herbicides. These have been detailed in section 3.1. Selected foods, as identified above, were analysed, but no herbicides were detected.

ND = not detected. Limit of reporting = 0.02 mg/kg (most samples). The LOR does vary with different matrices.



## REFERENCES

- Brinsdon S. (2002). The Food List for the 2003/04 New Zealand Total Diet Survey. A report for the New Zealand Food Safety Authority.
- Cressey P, Vannoort RW, Silvers K and Thomson BM. (2000). 1997/98 New Zealand Total Diet Survey, Part 1 : Pesticide Residues. ESR report FW9964 for Ministry of Health. Wellington: ESR.
- Dick GL, Heenan MP and Love JL, Udy PB, Davidson F. (1978a). Survey of trace elements and pesticide residues in the New Zealand diet: Part 2 - Organochlorine and organophosphorus pesticide residue content. *New Zealand Journal of Science*; 21: 71-8.
- Dick GL, Hughes JT and Mitchell JW, Love JL, Udy PB, Davidson F. (1978b). Survey of trace elements and pesticide residues in the New Zealand diet: Part 1 - Trace element content. *New Zealand Journal of Science*; 21: 57-69.
- ESR/MoH. (1994). The 1987/88 New Zealand Total Diet Survey. Wellington: ESR.
- FAO/UNEP/WHO, 1985. GEMS (Global Environmental Monitoring System). System Guidelines for the study of dietary intake of chemical contaminants - Report of the Joint FAO/UNEP/WHO Food Contamination Monitoring Programme. Geneva: World Health Organisation.
- Hannah ML, Vannoort RW, Pickston L. (1995). 1990/91 New Zealand Total Diet Survey, Part 3, Nutrients. ESR Health report for Ministry of Health/ Public Health Commission. Wellington: ESR.
- Pickston L, Brewerton HV, Drysdale JM, Hughes JT, Smith JM, Love JL, Sutcliffe ER, Davidson F. (1985). The New Zealand diet: a survey of elements, pesticides, colours, and preservatives, *New Zealand Journal of Technology*; 1: 81-89.
- Pickston L, Vannoort RW. (1995). Compliance Report on Foods in the 1990/91 New Zealand Total Diet Survey. ESR Health report for Ministry of Health/Public Health Commission. Wellington: ESR.
- Vannoort RW, Hannah ML, Pickston L, Fry JM. (1995a). 1990/91 New Zealand Total Diet Survey, Part 1 : Pesticide Residues. ESR Health report for Ministry of Health/Public Health Commission. Wellington: ESR.
- Vannoort RW, Hannah ML, Pickston L. (1995b). 1990/91 New Zealand Total Diet Survey, Part 2 : Contaminant Elements. ESR Health report for Ministry of Health/Public Health Commission. Wellington: ESR.
- Vannoort RW, Cressey PJ and Silvers K. (2000). 1997/98 New Zealand Total Diet Survey, Part 2 : Elements – Selected Contaminants and Nutrients. ESR report FW9947 for Ministry of Health. Wellington: ESR.
- Vannoort RW. (2003). 2003/04 New Zealand Total Diet Survey Procedures Manual. 25 June 2003. ESR Client Report FW03/47. Christchurch: ESR.

## **APPENDIX 1            BACKGROUND TO THE 2003/04 NEW ZEALAND TOTAL DIET SURVEY**

The primary focus of the New Zealand Total Diet Survey (NZTDS) is to assess dietary exposure to chemical residues, contaminant elements and selected nutrients, from 121 representative foods, across the average diet of different age-sex groups within the New Zealand population. As such, foods are analysed on an 'as consumed' basis.

The New Zealand Food Safety Authority (NZFSA) are the purchasers of the 2003/04 NZTDS, and have key responsibilities regarding the overall direction of it, public release of results in a timely manner and follow up actions. The NZTDS represents a powerful tool for the NZFSA's risk management activities related to the safety of the New Zealand food supply. NZFSA fund ESR to manage the survey, purchase national and regional food samples, prepare all food samples, organise and manage robust, quality analyses, and to produce interim analytical results and final interpretative NZTDS reports.

The NZFSA undertook extensive consultation with stakeholder groups and interested parties (including public health, academia and research institutes, industry sector groups, and consumer groups) on the design and content of the 2003/04 NZTDS.

The 2003/04 New Zealand Total Diet Survey (NZTDS) is the sixth such study of its kind in New Zealand. The previous five surveys have been carried out jointly by the Ministry of Health (formerly the Department of Health) and ESR (formerly DSIR Chemistry Division).

The first NZTDS was carried out in 1974 (Dick et al, 1978a,b) and involved analysis of a relatively small number of food group composites. These were based on the diet of an adolescent male, the age/sex group which consumes the largest quantity of food on a daily basis. The 1982 survey was similar, but the energy content of the diet was recalculated to give intake estimates for other age/sex groups (Pickston et al, 1985). The 1987/88 survey saw a change in survey design to an analysis of a large number of individual foods. This increased the flexibility of the survey and allowed calculation of estimated dietary intakes for a wider range of age/sex groups (ESR/MoH, 1994). The 1990/91 and 1997/98 surveys adopted a similar approach for food selection (Vannoort et al, 1995a,b; Hannah et al, 1995; Pickston and Vannoort, 1995; Cressey et al, 2000; Vannoort et al, 2000), and this is to be used as the basis for the 2003/04 survey.

The 1987/88 and 1990/91 NZTDSs considered a wide range of nutrient elements (13 nutrient elements and eleven nutrient elements plus one vitamin respectively) in addition to agricultural compounds and contaminant elements. The 1997/98 and 2003/04 NZTDSs refocused mainly onto contaminants in food, with only two nutrient elements of special interest (selenium and iodine) being considered in both, and iron and sodium being additionally assessed in the 2003/04 NZTDS. The range of agricultural compounds screened for has increased consistently with each NZTDS, to over 200 in the current survey.

The survey is conducted in accordance with the recommendations of the FAO/WHO Joint Expert Committee on Pesticide Residues and in agreement with the objectives of the Joint FAO/WHO Global Environmental Monitoring Systems (GEMS; FAO/UNEP/WHO, 1985).

### **Objectives**

---

The objectives of the 2003/04 NZTDS are:

- agree in consultation with stakeholders the design and content of the 2003/04 NZTDS;
- estimate dietary exposure for selected chemical residues, contaminants and nutrient elements in the New Zealand food supply 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 complement 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 in a timely and transparent manner.

## **Timetable**

Sampling will be carried out on four occasions during the 2003/04 financial year. Chemical analyses will be carried out during the 2003/04 year and the early part of the 2004/05 year. Data analysis, exposure estimates, writing of full interpretative reports will take place in the latter part of 2004/05 and be completed early in 2005/06 year. This report refers to the results of the first of the four sampling occasions (Q1).

## **Foods**

Foods to be analysed have been divided into two categories:

National Foods (63) - are not expected to exhibit any regional variability and include processed foods such as biscuits, breakfast cereals and beverages, which are uniformly available New Zealand wide. National Foods will be sampled in a single location (Christchurch) on two occasions. Up to four brands, selected on the basis of market share, will be collected on each sampling occasion. Foods will almost all be prepared and analysed on the basis of individual brands/seasons to give a total of four analyses for each food for each season, although occasionally seasonal composites of the four brands to give one analysis for each food.

Regional Foods (58) - may be expected to demonstrate variation in agricultural compound, contaminant and nutrient level depending on the location in which the food was produced. Regional foods include meat, fruit and vegetables. Regional foods will be sampled in each of four locations (Auckland, Napier, Christchurch and Dunedin) on two occasions. Foods will

almost all be prepared and analysed on the basis of individual regions/seasons to give a total of four analyses for each food for each season, although occasionally seasonal composites of the four regions to give one analysis for each food each season.

Foods sampled in the first quarter (Q1) were regional foods. The full food list for the 2003/04 NZTDS is given in Appendix 2.

## **Analyses**

Analyses have been carried out by the following organisations:

Agricultural compounds – Agriquality NZ Ltd, Gracefield, Lower Hutt  
Elements and Moisture - R J Hill Laboratories, Hamilton

## **Operation of the Survey**

- A detailed food list for the 2003/04 NZTDS was developed for the New Zealand Food Safety Authority (Brinsdon, 2002).
- A detailed procedures manual, covering purchasing of foods and preparation of foods to the point of dispatch to the analytical facilities, was prepared by ESR during June 2003 (Vannoort, 2003).
- Sampling of regional and national foods were carried out by Health Protection Officers under the direction of a designated ESR contact officer.
- Sample preparation was carried out by the ESR Food Safety group, Christchurch Science Centre.
- Funding for the survey is provided by the New Zealand Food Safety Authority.

## **Co-ordination and Management of the Survey**

The survey is managed and co-ordinated by ESR in consultation with the New Zealand Food Safety Authority.

## **Reporting**

Four analytical results reports are being generated at the conclusion of analyses each quarter, detailing the concentrations of agricultural compounds, contaminants and nutrients found in foods sampled during that quarter. This is the first of these quarterly reports.

Two internally and externally peer-reviewed interpretative reports will be produced at the conclusion of the project (target date October 2005), commenting on concentration data and estimated dietary intakes, and making comparisons to internationally accepted health standards and comparable overseas studies.

## APPENDIX 2 FOOD LIST AND ASSOCIATED ANALYSES IN THE 2003/04 NZTDS

The foods of the 2003/04 NZTDS are listed in the table below in alphabetical order. Foods which are actually new to the food list for the 2003/04 NZTDS are identified in the first column. These were either not included in the food list for the 1997/98 NZTDS, or have replaced foods included in the 1997/98 NZTDS food list. The food 'type' column identifies the NZTDS foods as either national (N) or regional (R) foods (see Appendix 1 for an explanation of these terms). Only regional foods were analysed in Q1. The remainder of the table consolidates information about which foods were analysed for which analytes in the 2003/04 NZTDS. The other abbreviations used in the table are as follows:- MR = Multi residue pesticide screen; DTC = dithiocarbamate fungicide screen; AH = Acid Herbicides screen; Elements (six) = arsenic, cadmium, iodine, iron, lead and sodium; IC = samples analysed as Individual Composites for brand/region; SC = samples analysed as Seasonal Composites; and NA = food not analysed for this analyte.

The NZFSA and ESR agreed the following criteria be used to decide if a food was analysed in the 2003/04 NZTDS for certain analytes, and whether these were analysed as an individual regional / brand composite (IC) per season; or as a seasonal composite (SC)

- High contributor to exposure ex WHO GEMS
- High contributor to exposure ex 97/98 NZTDS;
- high concentration in 97/98 NZTDS;
- Limit of detection (LOD) in respective matrices
- Key food(s) /food groups covered for new analytes (ie AH)
- Available budget, recognising differential costs for agricultural compounds, elements and moisture
- Increase individual analyses from 97/8 NZTDS to 2003/04;

New Food in 03/ 04 NZTDS	Food	Type	MR	DTC	AH	Elements (six)	Mer-cury	Selen-ium
	Apple-based juice	N	IC	IC	NA	IC	IC	IC
	Apples	R	IC	IC	SC	IC	IC	IC
	Apricots, canned	N	IC	IC	NA	IC	IC	IC
*	Avocado	R	IC	IC	NA	IC	IC	IC
	Bacon	R	IC	NA	IC	IC	IC	IC
	Bananas	N	IC	IC	NA	IC	IC	IC
	Beans	N	IC	IC	NA	IC	IC	IC
	Beans, baked, canned	N	IC	IC	NA	IC	IC	IC
*	Beef, corned	R	IC	NA	NA	IC	IC	IC
	Beef, mince	R	IC	NA	IC	IC	IC	IC
	Beef, rump	R	IC	NA	NA	IC	IC	IC
	Beer	N	IC	NA	NA	IC	IC	IC
	Beetroot, canned	N	IC	IC	NA	IC	IC	IC
	Biscuits, chocolate	N	IC	NA	NA	IC	NA	IC
	Biscuits, cracker	N	IC	NA	NA	IC	NA	IC
	Biscuits, plain sweet	N	IC	NA	NA	IC	NA	IC
	Bran flake cereal, mixed	N	IC	NA	NA	IC	NA	IC
	Bread, mixed grain, sliced	R	IC	NA	SC	IC	NA	IC
	Bread, wheatmeal, sliced	R	IC	NA	NA	IC	NA	IC

New Food in 03/ 04 NZTDS	Food	Type	MR	DTC	AH	Elements (six)	Mercury	Selenium
	Bread, white, sliced	R	IC	NA	NA	IC	NA	IC
	Broccoli/Cauliflower	R	IC	IC	NA	IC	IC	IC
	Butter	N	IC	NA	NA	IC	NA	IC
	Cabbage	R	IC	IC	NA	IC	IC	IC
*	Caffeinated beverage	N	IC	NA	NA	IC	IC	IC
	Cake, plain	R	IC	NA	NA	IC	NA	IC
	Capsicum	R	IC	IC	NA	IC	IC	IC
	Carbonated drink	N	IC	NA	NA	IC	IC	IC
	Carrots	R	IC	IC	NA	IC	IC	IC
	Celery	R	IC	IC	NA	IC	IC	IC
	Cheese	N	IC	NA	NA	IC	NA	IC
	Chicken	N	IC	NA	IC	IC	IC	IC
	Chicken takeaway	R	IC	NA	NA	IC	IC	IC
	Chinese dish	R	IC	NA	NA	IC	IC	IC
	Chocolate beverage	N	IC	NA	NA	IC	IC	IC
	Chocolate, plain milk	N	IC	NA	NA	IC	NA	IC
	Coffee instant	N	IC	NA	NA	IC	IC	IC
*	Coffee, beans/ground	R	IC	NA	NA	IC	IC	IC
	Confectionery	N	IC	NA	NA	IC	NA	IC
	Corn, canned	N	IC	IC	NA	IC	IC	IC
	Cornflakes	N	IC	NA	NA	IC	NA	IC
	Courgette	R	IC	IC	NA	IC	IC	IC
*	Cream	R	IC	NA	NA	IC	NA	IC
	Cucumber	R	IC	IC	NA	IC	IC	IC
	Dairy dessert	N	IC	NA	NA	IC	IC	IC
	Egg	R	IC	NA	IC	IC	IC	IC
	Fish fingers	N	IC	NA	NA	IC	IC	IC
	Fish in batter	R	IC	NA	NA	IC	IC	IC
	Fish, canned	N	IC	NA	NA	IC	IC	IC
	Fish, fresh	R	IC	NA	NA	IC	IC	IC
	Fruit drink	N	IC	NA	NA	IC	IC	IC
*	Grapes	R	IC	IC	NA	IC	IC	IC
*	Ham	R	IC	NA	NA	IC	IC	IC
	Hamburger, plain	R	IC	NA	NA	IC	IC	IC
	Honey	N	IC	NA	NA	IC	NA	IC
	Ice cream	N	IC	NA	NA	IC	NA	IC
*	Infant and follow-on formula	N	IC	IC	SC	IC	IC	IC
*	Infant weaning food, cereal based	N	IC	IC	SC	IC	IC	IC
*	Infant weaning food, custard, fruit	N	IC	IC	SC	IC	IC	IC
*	Infant weaning food, savoury meat/veg	N	IC	IC	SC	IC	IC	IC
	Jam	N	IC	NA	NA	IC	NA	IC
	Kiwifruit	R	IC	IC	NA	IC	IC	IC
	Kumara	R	IC	IC	NA	IC	IC	IC
	Lamb/mutton	R	IC	NA	IC	IC	IC	IC
	Lamb's liver	R	IC	NA	NA	IC	IC	IC

New Food in 03/ 04 NZTDS	Food	Type	MR	DTC	AH	Elements (six)	Mer- cury	Selen- ium
	Lettuce	R	IC	IC	NA	IC	IC	IC
	Margarine	N	IC	NA	NA	IC	NA	NA
	Meat pie	R	IC	NA	NA	IC	IC	IC
*	Melon	R	IC	IC	NA	IC	IC	IC
	Milk, 0.5% fat (Trim)	R	IC	NA	NA	IC	IC	IC
	Milk, 3.25% fat	R	IC	NA	SC	IC	IC	IC
*	Milk, flavoured	R	IC	NA	NA	IC	IC	IC
	Muesli	N	IC	NA	NA	IC	NA	IC
*	Muffin	R	IC	NA	NA	IC	NA	IC
	Mushrooms	R	IC	IC	NA	IC	IC	IC
	Mussels	R	IC	NA	NA	IC	IC	IC
	Nectarines	R	IC	IC	NA	IC	IC	IC
	Noodles, instant	N	IC	NA	NA	IC	NA	IC
	Oats, rolled	N	IC	NA	NA	IC	NA	IC
	Oil	N	IC	NA	NA	IC	NA	NA
	Onions	R	IC	IC	NA	IC	IC	IC
	Orange juice	N	IC	IC	NA	IC	IC	IC
	Oranges	R	IC	IC	NA	IC	IC	IC
	Oysters	R	IC	NA	NA	IC	IC	IC
	Pasta, dried	N	IC	NA	NA	IC	NA	IC
	Peaches, canned	N	IC	IC	NA	IC	IC	IC
	Peanut butter	N	IC	NA	NA	IC	NA	IC
	Peanuts, whole	N	IC	NA	NA	IC	NA	IC
	Pears	R	IC	IC	NA	IC	IC	IC
	Peas	N	IC	IC	SC	IC	IC	IC
	Pineapple, canned	N	IC	IC	NA	IC	IC	IC
	Pizza	R	IC	NA	NA	IC	IC	IC
	Pork chop	R	IC	NA	NA	IC	IC	IC
	Potato crisps	N	IC	IC	NA	IC	IC	IC
	Potato, hot chips	R	IC	NA	NA	IC	IC	IC
	Potatoes with skin	R	IC	IC	NA	IC	IC	IC
	Potatoes, peeled	R	IC	IC	SC	IC	IC	IC
*	Prunes	N	IC	IC	NA	IC	IC	IC
	Pumpkin	R	IC	IC	NA	IC	IC	IC
	Raisins/Sultanas	N	IC	IC	NA	IC	IC	IC
	Rice, white	N	IC	NA	NA	IC	NA	IC
*	Salad dressing	N	IC	NA	NA	IC	NA	NA
	Sausages	R	IC	NA	NA	IC	IC	IC
	Silverbeet	R	IC	IC	NA	IC	IC	IC
*	Snack bars	N	IC	NA	NA	IC	IC	IC
	Snacks, flavoured	N	IC	NA	NA	IC	NA	IC
	Soup, chicken	N	IC	NA	NA	IC	IC	IC
	Soya milk	N	IC	NA	IC	IC	IC	IC
	Spaghetti in sauce, canned	N	IC	NA	NA	IC	NA	IC
*	Strawberries	R	IC	IC	SC	IC	IC	IC

<b>New Food in 03/ 04 NZTDS</b>	<b>Food</b>	<b>Type</b>	<b>MR</b>	<b>DTC</b>	<b>AH</b>	<b>Elements (six)</b>	<b>Mer- cury</b>	<b>Selen- ium</b>
*	Sugar	N	IC	NA	NA	IC	NA	IC
*	Taro	R	IC	IC	NA	IC	IC	IC
	Tea	N	IC	NA	NA	IC	IC	IC
	Tomato	R	IC	IC	SC	IC	IC	IC
	Tomato sauce	N	IC	IC	NA	IC	IC	IC
	Tomatoes in juice	N	IC	IC	NA	IC	IC	IC
	Water	R	IC	NA	IC	IC	IC	IC
	Wheatbix	N	IC	NA	NA	IC	NA	IC
	Wine, still red	N	IC	NA	NA	IC	IC	IC
	Wine, still white	N	IC	NA	NA	IC	IC	IC
	Yeast extract	N	IC	NA	NA	IC	NA	IC
	Yoghurt	N	IC	NA	NA	IC	NA	IC

R = regional food

N = national food

MR = Multi residue pesticides

DTC = dithiocarbamate fungicides

AH = Acid Herbicides screen

Elements (six) = arsenic, cadmium, iodine, iron, lead and sodium

IC = analysed Individual Composites for brand/region

SC = analysed as Seasonal Composites

NA = food not analysed for this analyte



## **APPENDIX 3            ANALYTICAL QUALITY CONTROL PROCEDURES**

Trace analyses of a wide range of complex analytes in a variety of complex matrices is an exacting science. For this reason, it is essential to have quality control steps in place to ensure confidence in the methodology and robustness of the results. For this reason the following quality control requirements have been built into the project.

### **Data quality**

All manipulations of spreadsheets and data have checks built in based on ESR database quality management systems. Data are also checked for sense and order of magnitude. All quality control data are assessed and validated before release. Unsatisfactory quality control (QC) data require an explanation from the laboratory and where necessary, reanalyses at their expense.

Quality control (QC) data include:

### **Blanks**

Blanks are required in batches to ensure carryover between samples is not occurring and to minimise the risk of false positives.

### **Duplicates**

Duplicates of samples are performed on a selection of samples in each batch to ascertain analytical precision. Coefficients of variation (CV = standard deviation of results divided by mean x 100%) of less than 10% are considered very good but may be acceptable at significantly greater than this, depending on the matrix, analyte and concentration.

### **Certified Reference Materials (CRMs)**

International Certified Reference Materials (CRMs) for a range of different matrices for the analytes in question at a variety of concentrations are also included in each batch to ascertain the accuracy of method. CRMs are samples that have been measured by a range of international laboratories using independent but established methodologies. From these results, justifiable outliers are excluded and a certified range of results for the CRM established. The laboratory should obtain a result within 70 - 125% of the certified value, depending on the analyte and concentration. It should be noted that the number of international CRMs is quite limited as it would represent an enormous amount of work internationally to have all matrices covered for all analytes at a multiplicity of concentrations by numerous international laboratories. For this reason some degree of compromise is often necessary, possibly the analyte concentration being significantly higher or lower in the CRM than in the sample, or the matrix may be different although the concentration the same. The situation also arises where many of the analytes (such as some agricultural compounds, vitamins) are unstable to light, air and/or heat, and so CRMs are not internationally available.

### **Spike recovery**

Where CRMs are not available the laboratories were required to spike the analyte into a selection of samples. The amount of analyte measured in the spiked sample minus the amount in the unspiked sample divided by the amount of analyte spiked into the sample times 100 represents the recovery of analyte in that matrix at that concentration. Acceptable recoveries for trace analyses would generally be 70 - 125%. If outside this window, the results would need to be assessed on a case by case basis.

### **In-house control samples**

Where practicable for the analytes in question, the laboratories were also requested to run an in-house control sample. This is run through all batches and represents a check on method precision and accuracy from day to day and analyst to analyst.

### **Blind duplicates**

Although ESR are confident that each analytical laboratory has appropriate built-in quality assurance procedures, ESR also believe it is necessary to build into this project provision of repeat samples which are submitted to the analytical laboratory as 'blind' duplicates. That is, the analyst will not be aware that the samples are duplicates. Results obtained provide an independent and external check on the quality of the data generated.