2003/04 NEW ZEALAND TOTAL DIET SURVEY

ANALYTICAL RESULTS - Q3

8 July 2004

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

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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 disinfestation 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'.

ML	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.
MR	Multi-residue. A pesticide residue analytical technique developed to detect and quantify the widest achievable range of pesticide types.
MRL	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, FSC 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.
NZFSA	New Zealand Food Safety Authority
NZTDS	New Zealand Total Diet Survey.
Pesticides	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.
Pesticide residue	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.
Q3, Q2, etc.	Quarter 1, quarter 2, etc. of the New Zealand Total Diet Survey sampling programme.

1 INTRODUCTION

This report presents the analytical results from the third 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 3 (Q3) sampling

The sampling carried out in Q3 was for regional foods (explained in Appendix 1). Q3 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 Q3 sampling: Mondays 26 January, 2, 6, 16, 23 February 2004

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

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

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	Triaulfuron
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 Q3 involved analysis of regional foods.

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

Element	Method of Analysis	Foods to be analysed
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 Q3 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 Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	< 0.002	< 0.002	< 0.002	< 0.002
Avocado	< 0.002	0.002	< 0.002	0.002
Bacon	0.006	0.004	0.008	0.006
Beef, mince	0.004	0.003	0.003	0.008
Beef, rump	0.007	0.011	0.003	0.004
Bread, mixed grain	0.007	0.013	0.006	0.007
Bread, wheatmeal	0.015	0.029	0.009	0.009
Bread, white	0.014	0.021	0.009	0.007
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	0.008	< 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	0.004	0.003	< 0.002
Chicken takeaway	< 0.002	0.002	0.004	0.004
Chinese dish	0.010	0.006	0.006	0.007
Coffee beans, ground	< 0.001	< 0.001	< 0.001	< 0.001
Corned beef	0.006	0.006	0.004	0.005
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	0.010	0.008	0.008	0.009
Fish, battered	0.754	10.960	3.110	0.463
Fish, fresh	4.140	2.990	3.070	3.120
Grapes	0.006	0.002	0.003	0.003
Ham	0.005	0.008	0.008	0.008
Hamburger, plain	0.015	0.012	0.012	0.013
Kiwifruit	< 0.002	< 0.002	< 0.002	< 0.002
Kumara	< 0.002	< 0.002	< 0.002	< 0.002
Lamb/mutton	0.002	0.003	0.003	< 0.002
Lambs liver	0.005	0.008	0.005	0.003
Lettuce	< 0.002	< 0.002	< 0.002	< 0.002
Meat pie	0.003	0.007	< 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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	0.009	0.005	< 0.005	< 0.005
Mushrooms	0.014	0.034	0.110	0.149
Mussels	2.750	1.580	1.530	2.590
Nectarine	< 0.002	0.003	< 0.002	< 0.002
Onion	< 0.002	0.002	< 0.002	< 0.002
Orange	0.002	< 0.002	< 0.002	< 0.002
Oysters	2.830	1.760	1.400	1.920
Pear	< 0.002	< 0.002	< 0.002	< 0.002
Pizza	0.013	0.014	0.057	0.008
Pork chop	< 0.002	0.003	0.004	< 0.002
Potato, hot chips	< 0.002	< 0.002	< 0.002	0.012
Potatoes, peeled	< 0.002	< 0.002	< 0.002	< 0.002
Potatoes, with skin	0.005	< 0.002	< 0.002	< 0.002
Pumpkin	< 0.002	< 0.002	< 0.002	< 0.002
Sausages	0.007	0.003	0.002	0.003
Silverbeet	0.003	< 0.002	< 0.002	0.006
Strawberries	No sample	0.005	< 0.002	0.003
Taro	< 0.002	< 0.002	0.007	< 0.002
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 Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Avocado	0.0134	0.0222	0.0288	0.0305
Bacon	< 0.0004	< 0.0004	< 0.0004	0.0005
Beef, mince	0.0012	< 0.0004	< 0.0004	< 0.0004
Beef, rump	< 0.0004	0.0005	< 0.0004	< 0.0004
Bread, mixed grain	0.0167	0.0117	0.0252	0.0192
Bread, wheatmeal	0.0140	0.0080	0.0260	0.0240
Bread, white	0.0095	0.0060	0.0200	0.0210
Broccoli/cauliflower	0.0039	0.0063	0.0034	0.0046
Butter	< 0.0020	< 0.0020	< 0.0020	< 0.0020
Cabbage	0.0054	0.0028	0.0016	0.0025
Cake	0.0060	0.0030	0.0070	0.0050
Capsicum	< 0.0004	0.0054	0.0043	0.0072
Carrot	0.0156	0.0086	0.0205	0.0368
Celery	0.0327	0.0232	0.0186	0.0446
Chicken takeaway	0.0033	0.0039	0.0031	0.0031
Chinese dish	0.0059	0.0015	0.0043	0.0067
Coffee beans, ground	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Corned beef	0.0013	0.0014	0.0020	0.0025
Courgette	0.0046	0.0052	0.0058	0.0035
Cream	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Cucumber	0.0004	< 0.0004	< 0.0004	< 0.0004
Egg	< 0.0004	< 0.0004	< 0.0004	0.0012
Fish, battered	0.0037	0.0032	0.0064	0.0070
Fish, fresh	0.0031	0.0021	0.0012	0.0015
Grapes	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Ham	0.0018	0.0017	0.0023	0.0022
Hamburger, plain	0.0115	0.0071	0.0120	0.0123
Kiwifruit	< 0.0004	0.0007	0.0004	< 0.0004
Kumara	0.0061	0.0037	0.0050	0.0046
Lamb/mutton	< 0.0004	< 0.0004	0.0006	0.0004
Lambs liver	0.0770	0.0430	0.0237	0.1660
Lettuce	0.0081	0.0255	0.0219	0.0193
Meat pie	0.0019	0.0035	0.0082	0.0086
Melons	0.0046	0.0064	0.0039	0.0027
Milk, 0.5% fat	< 0.0002	0.0002	0.0003	0.0002
Milk, 3.25% fat	< 0.0002	0.0003	0.0002	0.0002
Milk, flavoured	0.0028	0.0005	0.0004	0.0003

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	0.0070	0.0110	0.0100	0.0100
Mushrooms	0.0045	0.0058	0.0044	0.0035
Mussels	0.1530	0.2470	0.1520	0.3900
Nectarine	0.0029	0.0046	0.0020	0.0021
Onion	0.0081	0.0173	0.0094	0.0259
Orange	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Oysters	0.6280	1.4700	3.9500	1.7600
Pear	0.0036	0.0025	0.0028	0.0039
Pizza	0.0059	0.0055	0.0201	0.0116
Pork chop	< 0.0004	< 0.0004	< 0.0004	< 0.0004
Potato, hot chips	0.0150	0.0583	0.0249	0.0339
Potatoes, peeled	0.0203	0.0169	0.0246	0.0229
Potatoes, with skin	0.0290	0.0155	0.0360	0.0301
Pumpkin	0.0057	0.0078	0.0060	0.0066
Sausages	0.0028	0.0040	0.0028	0.0112
Silverbeet	0.0187	0.0276	0.0615	0.1030
Strawberries	No sample	0.0084	0.0042	0.0028
Taro	0.0242	0.0104	0.0057	0.0525
Tomato	0.0008	0.0003	0.0006	0.0005
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 Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	< 0.002	0.003	< 0.002	< 0.002
Avocado	< 0.002	< 0.002	< 0.002	< 0.002
Bacon	0.009	0.011	0.010	0.014
Beef, mince	0.031	0.008	0.006	0.005
Beef, rump	0.009	0.009	0.005	0.004
Bread, mixed grain	0.025	0.014	0.020	0.008
Bread, wheatmeal	< 0.005	0.008	0.011	0.007
Bread, white	0.004	< 0.005	< 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	0.206	0.100	0.113	0.129
Capsicum	< 0.002	< 0.002	< 0.002	< 0.002
Carrot	0.018	0.003	0.003	0.005
Celery	0.044	0.008	0.003	< 0.002
Chicken takeaway	0.008	0.004	0.094	0.007
Chinese dish	0.023	0.011	0.037	0.008
Coffee beans, ground	< 0.001	< 0.001	< 0.001	< 0.001
Corned beef	0.038	0.043	0.021	0.032
Courgette	0.004	< 0.002	< 0.002	< 0.002
Cream	0.034	0.028	0.030	0.037
Cucumber	< 0.002	< 0.002	0.004	< 0.002
Egg	0.606	0.432	0.540	0.466
Fish, battered	0.142	0.025	0.185	0.049
Fish, fresh	0.372	0.352	0.237	0.140
Grapes	0.019	0.003	0.005	0.004
Ham	0.042	0.023	0.037	0.056
Hamburger, plain	0.012	0.056	0.006	0.011
Kiwifruit	< 0.002	< 0.002	< 0.002	< 0.002
Kumara	< 0.002	0.010	0.003	< 0.002
Lamb/mutton	0.175	0.007	0.006	0.012
Lambs liver	0.057	0.053	0.048	0.067
Lettuce	0.040	< 0.002	< 0.002	< 0.002
Meat pie	0.008	0.011	0.004	0.005
Melons	< 0.002	< 0.002	< 0.002	< 0.002
Milk, 0.5% fat	0.047	0.036	0.077	0.062
Milk, 3.25% fat	0.044	0.041	0.053	0.065
Milk, flavoured	0.048	0.046	0.042	0.047

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	0.146	0.099	0.058	0.056
Mushrooms	0.008	< 0.002	< 0.002	< 0.002
Mussels	1.060	1.280	1.670	1.520
Nectarine	< 0.002	< 0.002	< 0.002	< 0.002
Onion	0.004	< 0.002	0.002	0.002
Orange	< 0.002	0.010	< 0.002	< 0.002
Oysters	0.792	0.874	1.070	0.842
Pear	0.004	< 0.002	< 0.002	< 0.002
Pizza	0.022	0.021	0.043	0.038
Pork chop	0.022	0.009	0.006	0.006
Potato, hot chips	0.023	0.010	0.102	< 0.002
Potatoes, peeled	0.005	< 0.002	0.002	< 0.002
Potatoes, with skin	0.015	0.002	0.002	0.004
Pumpkin	0.013	0.013	< 0.002	0.004
Sausages	0.038	0.012	0.118	0.261
Silverbeet	0.104	0.008	0.004	0.004
Strawberries	No sample	0.007	< 0.002	< 0.002
Taro	< 0.002	< 0.002	0.010	< 0.002
Tomato	< 0.002	< 0.002	< 0.002	< 0.002
Water	0.003	0.005	0.001	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 Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	1.0	1.0	0.7	1.0
Avocado	5.5	5.1	3.6	7.2
Bacon	5.8	6.5	6.1	6.5
Beef, mince	20.4	17.7	25.1	22.2
Beef, rump	27.4	24.9	29.0	32.5
Bread, mixed grain	13.4	12.7	17.4	13.9
Bread, wheatmeal	19.1	16.5	17.0	15.8
Bread, white	11.0	9.6	8.0	8.3
Broccoli/cauliflower	3.2	4.2	3.0	3.8
Butter	<1.0	<1.0	<1.0	<1.0
Cabbage	2.4	2.1	1.7	2.2
Cake	9.4	7.4	8.8	10.6
Capsicum	2.5	2.9	2.7	2.3
Carrot	1.7	2.1	1.4	1.4
Celery	5.0	1.1	1.5	1.2
Chicken takeaway	6.4	5.8	6.7	5.7
Chinese dish	3.8	4.1	5.7	3.9
Coffee beans, ground	0.3	< 0.1	0.3	< 0.1
Corned beef	20.0	21.0	19.3	19.7
Courgette	5.6	2.7	3.6	3.6
Cream	0.3	0.2	0.5	0.4
Cucumber	0.8	0.7	0.6	0.6
Egg	6.5	12.2	7.5	8.6
Fish, battered	3.1	2.6	2.4	2.5
Fish, fresh	3.0	2.6	2.4	2.3
Grapes	4.9	3.8	2.4	3.7
Ham	9.0	7.8	7.9	7.7
Hamburger, plain	14.4	11.2	16.2	15.4
Kiwifruit	2.3	2.7	1.7	2.1
Kumara	3.7	3.3	3.5	3.6
Lamb/mutton	21.1	31.2	26.1	20.7
Lambs liver	71.3	62.5	79.3	126.0
Lettuce	3.3	2.1	1.1	2.0
Meat pie	8.4	9.5	11.2	8.7
Melons	1.4	1.7	1.7	1.3
Milk, 0.5% fat	0.2	0.2	0.1	0.2
Milk, 3.25% fat	0.2	0.2	0.2	0.2
Milk, flavoured	1.2	0.6	0.6	0.5

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	10.2	9.2	10.2	13.3
Mushrooms	1.8	2.7	2.2	2.3
Mussels	76.9	32.8	82.7	60.1
Nectarine	0.8	1.9	1.3	1.3
Onion	1.6	1.7	1.7	1.8
Orange	0.8	0.8	0.9	1.1
Oysters	56.6	31.5	42.5	30.7
Pear	0.3	1.3	1.0	1.3
Pizza	7.0	9.2	7.3	8.7
Pork chop	9.4	8.0	5.2	7.3
Potato, hot chips	5.6	6.0	7.4	8.0
Potatoes, peeled	2.1	3.2	3.0	3.4
Potatoes, with skin	3.7	4.9	8.4	8.7
Pumpkin	2.1	2.4	3.5	1.9
Sausages	15.0	14.9	12.3	15.8
Silverbeet	13.9	11.0	10.9	21.9
Strawberries	No sample	3.8	1.9	2.2
Taro	6.6	6.7	6.6	7.6
Tomato	1.4	2.0	2.3	1.5
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 Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	< 0.002	0.002	0.006	0.002
Avocado	0.004	< 0.002	< 0.002	< 0.002
Bacon	0.013	0.007	0.008	0.008
Beef, mince	0.007	0.002	0.006	0.003
Beef, rump	0.011	0.005	0.006	< 0.002
Bread, mixed grain	0.014	0.023	0.007	0.005
Bread, wheatmeal	0.028	0.012	< 0.005	0.006
Bread, white	0.016	0.014	< 0.005	< 0.005
Broccoli/cauliflower	0.004	0.004	0.003	0.003
Butter	< 0.010	< 0.010	< 0.010	< 0.010
Cabbage	< 0.002	0.002	0.003	< 0.002
Cake	< 0.005	< 0.005	< 0.005	< 0.005
Capsicum	0.004	0.004	< 0.002	0.003
Carrot	0.007	0.003	0.012	0.003
Celery	0.002	0.005	0.005	0.006
Chicken takeaway	0.147	0.008	0.017	0.010
Chinese dish	0.005	0.003	0.005	0.008
Coffee beans, ground	0.004	< 0.001	0.003	0.001
Corned beef	0.006	0.005	0.005	0.010
Courgette	0.011	< 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	0.003	0.003	0.003	< 0.002
Fish, battered	0.006	0.016	0.007	0.002
Fish, fresh	0.016	0.012	0.014	0.008
Grapes	0.005	0.003	0.005	0.009
Ham	0.008	0.009	0.004	0.005
Hamburger, plain	0.006	0.042	0.006	0.009
Kiwifruit	< 0.002	0.008	0.006	0.003
Kumara	0.005	0.003	0.004	0.005
Lamb/mutton	0.007	0.008	0.012	0.007
Lambs liver	0.020	0.016	0.032	0.023
Lettuce	0.014	0.007	< 0.002	< 0.002
Meat pie	0.006	0.088	0.004	0.004
Melons	< 0.002	0.003	0.002	0.003
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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	< 0.005	0.008	0.006	0.009
Mushrooms	< 0.002	0.002	0.003	0.003
Mussels	0.134	0.086	0.088	0.076
Nectarine	0.006	0.007	0.003	0.006
Onion	0.004	0.004	0.004	0.004
Orange	0.005	< 0.002	0.003	0.004
Oysters	0.117	0.022	0.047	0.027
Pear	< 0.002	0.003	0.003	< 0.002
Pizza	0.040	0.124	0.008	0.046
Pork chop	0.009	0.014	0.014	0.011
Potato, hot chips	0.003	0.003	< 0.002	< 0.002
Potatoes, peeled	0.006	0.009	< 0.002	0.005
Potatoes, with skin	0.004	< 0.002	0.007	0.009
Pumpkin	0.007	0.006	0.012	0.008
Sausages	0.017	0.013	0.018	0.008
Silverbeet	0.020	0.010	0.010	0.017
Strawberries	No sample	0.010	0.006	0.002
Taro	0.005	0.005	0.028	0.005
Tomato	0.004	0.004	0.007	0.007
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 Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.004	< 0.002	< 0.002	< 0.002
Fish, battered	0.116	0.852	0.152	0.101
Fish, fresh	0.252	0.291	0.055	0.202
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	0.003	0.002	0.003
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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	NA	NA	NA	NA
Mushrooms	< 0.002	< 0.002	< 0.002	< 0.002
Mussels	0.016	0.013	0.021	0.017
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	0.013	0.009	0.011	0.010
Pear	< 0.002	< 0.002	< 0.002	< 0.002
Pizza	< 0.002	< 0.002	0.004	< 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	No sample	< 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	< 0.0001	< 0.0001	< 0.0001	< 0.0001

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 = 0.0001 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 Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	< 0.004	< 0.004	< 0.004	< 0.004
Avocado	< 0.004	< 0.004	0.007	0.012
Bacon	0.131	0.130	0.180	0.145
Beef, mince	0.055	0.055	0.046	0.077
Beef, rump	0.081	0.140	0.042	0.066
Bread, mixed grain	0.073	0.093	0.016	0.015
Bread, wheatmeal	0.131	0.099	< 0.010	< 0.010
Bread, white	0.101	0.102	< 0.010	< 0.010
Broccoli/cauliflower	0.009	0.006	< 0.004	< 0.004
Butter	< 0.020	< 0.020	< 0.020	< 0.020
Cabbage	0.009	0.007	< 0.004	< 0.004
Cake	0.089	0.071	0.066	0.073
Capsicum	< 0.004	< 0.004	< 0.004	< 0.004
Carrot	0.006	< 0.004	< 0.004	< 0.004
Celery	< 0.004	< 0.004	< 0.004	< 0.004
Chicken takeaway	0.101	0.135	0.111	0.129
Chinese dish	0.057	0.041	0.045	0.038
Coffee beans, ground	< 0.002	< 0.002	< 0.002	< 0.002
Corned beef	0.052	0.033	0.052	0.045
Courgette	0.005	< 0.004	0.008	< 0.004
Cream	0.005	0.007	0.006	0.005
Cucumber	< 0.004	< 0.004	< 0.004	< 0.004
Egg	0.283	0.263	0.247	0.261
Fish, battered	0.288	0.188	0.300	0.275
Fish, fresh	0.492	0.570	0.481	0.585
Grapes	< 0.004	< 0.004	< 0.004	< 0.004
Ham	0.112	0.170	0.167	0.109
Hamburger, plain	0.197	0.116	0.080	0.082
Kiwifruit	< 0.004	< 0.004	< 0.004	0.013
Kumara	< 0.004	< 0.004	< 0.004	< 0.004
Lamb/mutton	0.048	0.070	0.081	0.038
Lambs liver	0.127	0.263	0.186	0.094
Lettuce	0.010	< 0.004	< 0.004	< 0.004
Meat pie	0.035	0.056	0.016	0.010
Melons	< 0.004	< 0.004	< 0.004	< 0.004
Milk, 0.5% fat	0.005	0.006	0.006	0.006
Milk, 3.25% fat	0.003	0.006	0.006	0.005
Milk, flavoured	0.004	0.004	0.005	< 0.002

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	0.072	0.050	0.038	0.045
Mushrooms	0.176	0.132	0.216	0.202
Mussels	0.449	0.598	0.557	0.639
Nectarine	< 0.004	< 0.004	< 0.004	< 0.004
Onion	0.012	< 0.004	< 0.004	< 0.004
Orange	< 0.004	< 0.004	< 0.004	< 0.004
Oysters	0.519	0.424	0.444	0.404
Pear	< 0.004	< 0.004	< 0.004	< 0.004
Pizza	0.073	0.073	0.047	0.048
Pork chop	0.114	0.124	0.150	0.098
Potato, hot chips	0.004	< 0.004	< 0.004	< 0.004
Potatoes, peeled	< 0.004	< 0.004	< 0.004	< 0.004
Potatoes, with skin	< 0.004	< 0.004	< 0.004	< 0.004
Pumpkin	< 0.004	< 0.004	0.005	< 0.004
Sausages	0.043	0.036	0.047	0.050
Silverbeet	0.008	< 0.004	< 0.004	0.005
Strawberries	No sample	< 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 Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	12	10	11	< 10
Avocado	157	77	52	95
Bacon	13400	12600	14600	13800
Beef, mince	1240	559	776	668
Beef, rump	561	601	590	686
Bread, mixed grain	4550	5210	5060	4750
Bread, wheatmeal	5910	4660	4520	4700
Bread, white	4800	5240	4710	4770
Broccoli/cauliflower	50	77	59	62
Butter	5490	5610	5590	5960
Cabbage	87	111	145	86
Cake	3650	3870	3750	3470
Capsicum	11	13	12	< 10
Carrot	468	251	444	343
Celery	323	690	175	472
Chicken takeaway	7440	9790	6380	7600
Chinese dish	4710	4660	4290	3780
Coffee beans, ground	< 5	< 5	< 5	< 5
Corned beef	9800	11300	8810	8860
Courgette	< 10	< 10	< 10	< 10
Cream	268	253	249	224
Cucumber	32	29	25	< 10
Egg	1420	1340	1410	1370
Fish, battered	2210	2180	1630	1990
Fish, fresh	931	739	883	669
Grapes	56	< 10	< 10	14
Ham	13300	12600	13400	15000
Hamburger, plain	4810	6870	3980	4550
Kiwifruit	< 10	< 10	< 10	10
Kumara	78	172	151	215
Lamb/mutton	871	840	919	858
Lambs liver	822	840	867	959
Lettuce	31	28	21	21
Meat pie	3840	5295	5280	5320
Melons	54	46	38	69
Milk, 0.5% fat	376	371	367	357
Milk, 3.25% fat	367	365	414	347
Milk, flavoured	464	352	372	334

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	4490	3690	3530	3690
Mushrooms	57	82	50	46
Mussels	3290	5920	3690	8700
Nectarine	< 10	< 10	< 10	< 10
Onion	20	18	15	35
Orange	< 10	< 10	< 10	< 10
Oysters	2350	4800	6560	5450
Pear	< 10	< 10	< 10	< 10
Pizza	5700	7240	5510	5790
Pork chop	731	867	832	783
Potato, hot chips	2670	1470	1300	2510
Potatoes, peeled	< 10	< 10	< 10	19
Potatoes, with skin	< 10	< 10	< 10	29
Pumpkin	< 10	< 10	< 10	< 10
Sausages	6130	7260	8380	6130
Silverbeet	656	527	937	1130
Strawberries	No sample	109	< 10	< 10
Taro	12	14	22	< 10
Tomato	16	33	21	19
Water	12.9	9.8	7.8	5.5

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 Q3 of 2003/04 NZTDS

Table 11 Multi-residue pesticides screened for but not detected in any food in Q3 of 2003/04 NZTDS

Acephate	Cypermethrin	Flamprop-methyl	Oxadixyl
Acetochhlor	Cyproconazole	Fluazifop-butyl	Oxyfluorfen
Alachlor	DDE, 2,4'	Fluazinam	Paclobutrazol
Aldrin	DDT, 2,4'	Fluometuron	Parathion(-ethyl)
Atrazine	DDT, 4,4'	Flusilasole	Parathion-methyl
Azaconazole	Deltamethrin	Flutriafol	Penconazole
Azinphos-methyl	Demeton-s-methyl	Fluvalinate-DL	Pendimethalin
Benalaxyl	Dichlobenil	Fluvalinate-D	Phorate
Bendiocarb	Dichlofenthion	Folpet	Phosalone
Benodanyl	Dichlofluanid	Furalaxyl	Phosmet
BHC - a	Dichlorvos	Furathiocarb	Phosphamidon-a
BHC - b	Dicrotophos	Halxyfop-methyl	Phosphamidon-b
Bifenthrin	Diflufenican	HCB	Prochloraz
Binapacryl	Dimethenamid	Heptachlor	Prometryn
Bitertanol	Dimethoate	Heptachlor endo epoxide	Propachlor
Bromacil	Dimethomorph	Heptachlor exo epoxide	Propazine
Bromophos-ethyl	Diphenamid	Heptenophos	Propetamphos
Bromophos(-methyl)	Disulfoton	Hexaconazole	Propiconazole-cis
Bromopropylate	Endrin	Hexazinone	Propiconazole-trans
Bupirimate	EPN	Iodophenphos	Propyzamide
Buprofezin	Epoxiconazole	Isazophos	Pyriproxyfen
Carbofuran	EPTC	Isofenphos	Quizalofop-ethyl
Carboxin	Esfenvalerate	Isoproturon	Simazine
Chlordane-cis	Ethiofencarb	Lindane	Tebuconazole
Chlordane-trans	Ethion	Malathion	Tebufenpyrad
Chlorfenvinphos	Etridiazole	Methacrifos	Terbacil
Chlorfluazuron	Etrimphos	Methidathion	Terbufos
Chlornitrofen	Famphur	Methiocarb	Trebumeton
Chlorobenzilate	Fenarimol	Metolachlor	Terbutryn
Chlorpropham	Fenchlorphos	Metribuzin	Tetrachlorvinphos
Chlorthal-dimethyl	Fenoxycarb	Mevinphos	Tetradifon
Chlozolinate	Fenpiclonil	Monocrotophos	Thiometon
Clomazone	Fenpropathrin	Napropamide	Tolclofos-methyl
Coumaphos	Fenpropimorph	Nitrofen	Tolylfluanid
Cyanazine	Fensulfothion	Nitrothal-isopropyl	Tralkoxydim
Cyfluthrin	Fenthion	Norflurazon	Triallate
Cyhalothrin-g	Fenvalerate	Omethoate	Triazophos
Cyhalothrin-l	Fipronil	Oxadiazon	Trifluralin

4.3.2 Azoxystrobin

Table 12 Azoxystrobin residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.009	0.004	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
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	ND	ND	ND	ND

Food	Auckland	Napier	Christchurch	Dunedin
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 = 0.003 mg/kg (most samples).

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

4.3.3 Captan

Table 13 Captan residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	ND	0.020	ND	0.004
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	0.056	ND	0.013	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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	0.120	0.065	0.046	0.035
Onion	ND	ND	ND	ND
Orange	ND	ND	ND	ND
Oysters	ND	ND	ND	ND
Pear	0.003	0.024	0.034	0.008
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	0.044	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

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

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

4.3.4 Carbaryl

Table 14 Carbaryl residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	ND	0.003	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	0.035	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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	0.210	0.008	0.450	0.230
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 carbaryl = 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.

4.3.5 Chlorothalonil

Table 15 Chlorothalonil residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.005	ND
Carrot	ND	ND	ND	ND
Celery	0.175	0.002	0.005	0.002
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	0.024	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

Food	Auckland	Napier	Christchurch	Dunedin
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 chlorothalonil = 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.

4.3.6 Chlorpyriphos

Table 16 Chlorpyriphos residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	ND	ND	0.007	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	0.011	0.143	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	0.013	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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.004	0.003	0.003
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 chlorpyriphos = 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.

4.3.7 Chlorpyriphos-methyl

Table 17 Chlorpyriphos-methyl residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.010	0.002	0.003	0.003
Bread, wheatmeal	0.022	0.017	ND	ND
Bread, white	0.033	0.003	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	ND	ND	ND	ND
Cabbage	ND	ND	ND	ND
Cake	0.003	ND	ND	0.005
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	ND	ND
Celery	ND	ND	ND	ND
Chicken takeaway	0.008	ND	ND	0.002
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	0.003	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	ND	ND	0.002	0.002
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	0.002	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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	0.017	0.004	0.019	0.036
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	0.006	ND	0.017
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	0.003	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 chlorpyriphos-methyl = 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.

4.3.8 Cyprodinil

Table 18 Cyprodinil residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.027	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Cyprodinil = 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.

4.3.9 DDD, 4,4'

Table 19 DDD, 4,4'residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.001	0.002
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

Food	Auckland	Napier	Christchurch	Dunedin
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' = 0.001 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 DDD, 2,4'

Table 20 DDD, 2,4' residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.002	0.003
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

Food	Auckland	Napier	Christchurch	Dunedin
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, 2,4' = 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.

4.3.11 DDE, 4,4'

Table 21 DDE, 4,4' residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	0.005	0.008	0.017	0.008
Beef, mince	0.003	0.008	0.005	0.002
Beef, rump	ND	0.002	0.012	0.001
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	0.011	0.012	0.039	0.037
Cabbage	ND	ND	ND	ND
Cake	ND	ND	ND	0.002
Capsicum	ND	ND	ND	ND
Carrot	ND	ND	0.001	ND
Celery	ND	ND	ND	ND
Chicken takeaway	ND	ND	0.003	ND
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	0.002	0.003	0.002	0.005
Courgette	ND	ND	0.030	0.005
Cream	0.002	0.004	0.018	0.020
Cucumber	ND	ND	ND	ND
Egg	0.001	0.006	0.005	0.008
Fish, battered	0.001	ND	ND	ND
Fish, fresh	0.001	ND	0.002	0.002
Grapes	ND	ND	ND	ND
Ham	ND	ND	0.010	ND
Hamburger, plain	0.002	0.002	0.004	0.002
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lamb/mutton	0.005	ND	0.005	0.013
Lambs liver	ND	ND	ND	ND
Lettuce	ND	ND	ND	ND
Meat pie	0.001	0.002	0.005	0.003
Melons	ND	ND	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	0.001	0.002
Milk, flavoured	ND	ND	0.001	ND

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	ND	0.002	0.002	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	0.007	0.007	0.003	0.004
Pork chop	0.007	0.003	0.014	0.018
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	0.005	0.009	0.017	0.012
Silverbeet	ND	ND	ND	0.005
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' = 0.001 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 Diazinon

Table 22 Diazinon residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	0.003	ND	0.003	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	0.003	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

Food	Auckland	Napier	Christchurch	Dunedin
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 = 0.003 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 Dicloran

Table 23 Dicloran residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.004
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	0.260	0.031	0.050	0.120
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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	0.003
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 Dicloran = 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 Dicofol

Table 24 Dicofol residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.002
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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	ND	ND	ND	0.004
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 Dicofol = 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.

4.3.15 Dieldrin

Table 25 Dieldrin residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.018
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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.002	0.013	0.015	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 = 0.002 mg/kg (most samples). The LOR does vary with different matrices.

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

4.3.16 Difenoconazole-cis

Table 26 Difenoconazole-cis residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.007	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Difenoconazole-cis = 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.

4.3.17 Difenoconazole-trans

Table 27 Difenoconazole-trans residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.014	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Difenoconazole-trans = 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.

4.3.18 Diphenylamine

Table 28 Diphenylamine residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	0.029	ND	0.003	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	0.002
Bread, white	ND	ND	ND	ND
Broccoli/cauliflower	ND	ND	ND	ND
Butter	0.006	0.007	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	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	ND	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	0.003	0.003	0.002	0.002
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	0.003	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

Food	Auckland	Napier	Christchurch	Dunedin
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 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.

4.3.19 Endosulfan, a-

Table 29 Endosulfan, a- residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.021
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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.102	ND	0.008	0.051
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting Endosulfan, a- = 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.

4.3.20 Endosulfan, b-

Table 30 Endosulfan, b- residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.017
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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.113	ND	0.017	0.075
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for Endosulfan, b- = 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.

4.3.21 Endosulfan-sulphate

Table 31 Endosulfan-sulphate residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.007	0.004	ND	0.005
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	0.020
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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.003	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	0.060	ND	0.013	0.034
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for Endosulfan-sulphate = 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.

4.3.22 Ethoxyquin

Table 32 Ethoxyquin residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.046	0.083	0.095	0.121
Chinese dish	ND	ND	ND	ND
Coffee beans, ground	ND	ND	ND	ND
Corned beef	0.007	ND	ND	ND
Courgette	ND	ND	ND	ND
Cream	ND	ND	ND	ND
Cucumber	ND	ND	ND	ND
Egg	ND	0.010	ND	0.015
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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.020	ND	0.007	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 = 0.005 mg/kg (most samples). The LOR does vary with different matrices.

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

4.3.23 Fenitrothion

Table 33 Fenitrothion residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.015	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	0.004	0.001	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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	ND	0.009	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	0.004	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	0.014	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 = 0.001 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 Fludioxonil

Table 34 Fludioxonil residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.009	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Fludioxonil = 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 Indoxacarb

Table 35 Indoxacarb residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	ND	0.008	0.002	0.003
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	0.010	0.006	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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.012	0.004	0.004
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 Indoxacarb = 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.

4.3.26 Iprodione

Table 36 Iprodione residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.077	0.100
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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	0.230	1.800	0.900	0.810
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	0.490	0.630	ND
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
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.

4.3.27 Kresoxim-methyl

Table 37 Kresoxim-methyl residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.006	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Kresoxim-methyl = 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.

4.3.28 Linuron

Table 38 Linuron residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.032	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Linuron = 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.

4.3.29 Metalaxyl

Table 39 Metalaxyl residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.090	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

Food	Auckland	Napier	Christchurch	Dunedin
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 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 Pencycuron

Table 40 Pencycuron residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.013	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 Pencycuron = 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 Permethrin-cis

Table 41 Permethrin-cis residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	0.004	ND
Beef, rump	ND	ND	0.001	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	0.004	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	0.003
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	0.004	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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.024	0.010	ND	0.011
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for Permethrin-cis = 0.001 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 Permethrin-trans

Table 42 Permethrin-trans residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	ND	ND	ND	ND
Avocado	ND	ND	ND	ND
Bacon	ND	ND	ND	ND
Beef, mince	ND	ND	0.012	ND
Beef, rump	ND	ND	0.004	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	0.002	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	0.004
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	0.006	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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.025	0.010	ND	0.010
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for Permethrin-trans = 0.001 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 Phorate sulphoxide

Table 43 Phorate sulphoxide residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.013	0.013	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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.022	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 Phorate sulphoxide = 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 Phorate sulphone

Table 44 Phorate sulphone residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.008	0.061	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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.008	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 Phorate sulphone = 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 Piperonyl butoxide

Table 45 Piperonyl butoxide residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.040	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	0.010	ND
Chinese dish	ND	0.061	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	0.003	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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	ND	ND	0.047	ND
Mushrooms	ND	ND	0.007	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	0.009	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 Piperonyl butoxide = 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.

4.3.36 Pirimicarb

Table 46 Pirimicarb residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.002	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	0.107	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

Food	Auckland	Napier	Christchurch	Dunedin
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 = 0.002 mg/kg (most samples). The LOR does vary with different matrices.

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

4.3.37 Pirimiphos-methyl

Table 47 Pirimiphos-methyl residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.100	0.050	0.215	0.230
Bread, wheatmeal	0.026	0.016	0.290	0.220
Bread, white	0.030	0.003	0.140	0.140
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	0.114	ND	ND	ND
Chicken takeaway	0.004	0.002	0.005	0.002
Chinese dish	0.003	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	0.004
Egg	ND	ND	ND	ND
Fish, battered	0.015	ND	0.014	0.007
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	ND	ND
Ham	ND	ND	ND	ND
Hamburger, plain	0.012	0.013	0.045	0.037
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	0.002	0.004	0.035	0.058
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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	0.024	0.009	0.038	0.017
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	0.009	0.080	0.058
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	0.013	0.037	0.014	0.047
Silverbeet	ND	ND	ND	ND
Strawberries	ND	ND	ND	ND
Taro	ND	ND	ND	ND
Tomato	0.154	0.056	ND	0.013
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for Pirimiphos-methyl = 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.

4.3.38 Procymidone

Table 48 Procymidone residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.220	0.031	ND	ND
Carrot	0.015	ND	ND	ND
Celery	ND	ND	ND	0.003
Chicken takeaway	ND	ND	ND	ND
Chinese dish	ND	ND	ND	0.005
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	0.005
Meat pie	ND	ND	ND	ND
Melons	ND	0.002	ND	ND
Milk, 0.5% fat	ND	ND	ND	ND
Milk, 3.25% fat	ND	ND	ND	ND
Milk, flavoured	ND	ND	ND	ND

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	ND	ND	ND	ND
Mushrooms	ND	ND	ND	ND
Mussels	ND	ND	ND	ND
Nectarine	0.075	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 = 0.002 mg/kg (most samples). The LOR does vary with different matrices.

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

4.3.39 Propargite 1+2

Table 49 Propargite 1+2 residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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

Food	Auckland	Napier	Christchurch	Dunedin
Muffin	0.018	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 Propargite 1+2 = 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 Propham

Table 50 Propham residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.255
Potatoes, with skin	ND	ND	ND	0.742
Pumpkin	ND	ND	ND	ND
Sausages	ND	ND	ND	ND
Silverbeet	ND	ND	ND	0.007
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 = 0.007 mg/kg (most samples). The LOR does vary with different matrices.

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

4.3.41 Propoxur

Table 51 Propoxur residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.017	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Propoxur = 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 Prothiophos

Table 52 Prothiophos residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.006
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

Food	Auckland	Napier	Christchurch	Dunedin
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 Prothiophos = 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.

4.3.43 Pyrazophos

Table 53 Pyrazophos residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.002
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

Food	Auckland	Napier	Christchurch	Dunedin
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 Pyrazophos = 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.

4.3.44 Pyrimethanil

Table 54 Pyrimethanil residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.004	ND	0.002
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

Food	Auckland	Napier	Christchurch	Dunedin
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	0.004
Taro	ND	ND	ND	ND
Tomato	ND	ND	ND	ND
Water	ND	ND	ND	ND

ND = not detected. Limit of reporting (LOR) for Pyrimethanil = 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.

4.3.45 Quintozene

Table 55 Quintozene residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.008	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Quintozene = 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.

4.3.46 Sethoxydim

Table 56 Sethoxydim residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.072	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Sethoxydim = 0.020 mg/kg (most samples). The LOR does vary with different matrices.

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

4.3.47 Terbuthylazine

Table 57 Terbuthylazine residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.003	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Terbuthylazine = 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.

4.3.48 Triademefon

Table 58 Triademefon residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.004	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Triademefon = 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.

4.3.49 Triademenol

Table 59 Triademenol residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.004	0.002
Egg	ND	ND	ND	ND
Fish, battered	ND	ND	ND	ND
Fish, fresh	ND	ND	ND	ND
Grapes	ND	ND	0.016	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Triademenol = 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.

4.3.50 Trifloxystrobin

Table 60 Trifloxystrobin residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	ND	0.002	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

Food	Auckland	Napier	Christchurch	Dunedin
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 Trifloxystrobin = 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.

4.3.51 Vinclozolin

Table 61 Vinclozolin residues (mg/kg) in foods in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
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	0.004	0.008	0.011	0.004
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

Food	Auckland	Napier	Christchurch	Dunedin
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 Vinclozolin = 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.

4.3.52 Dithiocarbamate Fungicides

The level of dithiocarbamates in foods is generally analysed internationally in terms of the amount of carbon disulphide (CS_2). The method is unable to differentiate which dithiocarbamate is present.

Table 62 Dithiocarbamate fungicide content (mg/kg of CS_2) of fruit and vegetable products in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin
Apple	0.02	ND	ND	ND
Avocado	0.03	ND	0.03	0.01
Broccoli/cauliflower	0.08	0.29	0.06	0.22
Cabbage	0.57	0.15	0.19	0.32
Capsicum	ND	0.04	ND	ND
Carrot	0.03	0.01	0.02	0.01
Celery	0.01	0.05	ND	ND
Courgette	ND	ND	ND	0.01
Cucumber	ND	ND	ND	ND
Grapes	ND	0.07	ND	0.25
Kiwifruit	ND	ND	ND	ND
Kumara	ND	ND	ND	ND
Lettuce	0.03	ND	0.01	ND
Melons	ND	ND	ND	ND
Mushrooms	0.01	ND	ND	0.06
Nectarine	0.09	ND	ND	0.12
Onion	0.01	0.03	ND	0.03
Orange	ND	ND	ND	ND
Pear	ND	ND	ND	ND
Potatoes, peeled	ND	ND	ND	ND
Potatoes, with skin	ND	ND	ND	ND
Pumpkin	ND	ND	ND	ND
Silverbeet	ND	0.01	ND	ND
Strawberries	ND	0.02	ND	ND
Taro	ND	ND	ND	0.03
Tomato	0.04	ND	0.03	ND

ND = not detected. Limit of reporting = 0.01 mg/kg CS_2 (most samples). The LOR does vary with different matrices.

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

4.3.53 Acid Herbicides

Table 63 Acid herbicide content (mg/kg) of foods analysed in Q3 of 2003/04 NZTDS

Food	Auckland	Napier	Christchurch	Dunedin	Regional composite
Apple					ND
Bacon	ND	ND	ND	ND	
Beef, mince	ND	ND	ND	ND	
Bread, mixed grain					ND
Egg	ND	ND	ND	ND	
Lamb/mutton	ND	ND	ND	ND	
Milk, 3.25% fat					ND
Potatoes, peeled					ND
Strawberries					ND
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.

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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 third of the four sampling occasions (Q3).

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 third quarter (Q3) 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 third of these quarterly reports. The first was produced in November 2003 (Vannoort, 2003b) and the second in April 2004 (Vannoort, 2004).

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 identifed 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 Q3. 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
	Bread, white, sliced	R	IC	NA	NA	IC	NA	IC

New Food in 03/ 04 NZTDS	Food	Type	MR	DTC	AH	Elements (six)	Mer-cury	Selen-ium
	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
	Lettuce	R	IC	IC	NA	IC	IC	IC

New Food in 03/ 04 NZTDS	Food	Type	MR	DTC	AH	Elements (six)	Mer-cury	Selen-ium
	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
*	Sugar	N	IC	NA	NA	IC	NA	IC
*	Taro	R	IC	IC	NA	IC	IC	IC

New Food in 03/ 04 NZTDS	Food	Type	MR	DTC	AH	Elements (six)	Mer-cury	Selen-ium
	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.