New Zealand Food Safety
Haumaru Kai Aotearoa

National Chemical Residues Programme

Results for 1 July 2018 – 30 June 2019 for farmed cattle, sheep, goats, deer, pigs, ostriches, honey, salmon, poultry, and wild animals and fish.

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Requests for further copies should be directed to:

Publications Logistics Officer
Ministry for Primary Industries
PO Box 2526
WELLINGTON 6140

Email: brand@mpi.govt.nz
Telephone: 0800 00 83 33
Facsimile: 04-894 0300

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1 Summary

New Zealand Food Safety operates a number of residue monitoring programmes associated with the Animal Products Act (APA), the Food Act and the Agricultural Compounds and Veterinary Medicines (ACVM) Act.

The residue monitoring programmes cover a range of primary products (meat, seafood, honey, milk and dairy products), and fresh produce intended for export and domestic consumption, as well as general food, as consumed by the average New Zealand person.

These programmes are based on ensuring we have the confidence and requisite assurance that food is safe and good agricultural practice is being followed. New Zealand Food Safety regularly reviews the programmes to consider new chemicals of interest, changing use patterns, new scientific information and trade requirements.

The National Chemical Residues Programme is a risk-based sampling and testing programme. It has a monitoring component that tests samples from randomly-selected farmed and wild animals, farmed salmon, fish and honey. It also has a surveillance component that tests samples from targeted at-risk animals, animal material or animal products.

New Zealand Food Safety authorises persons to collect samples and has procedures are in place to ensure that traceability, security and quality management are maintained from collection through to analysis and storage.

New Zealand Food Safety contracts laboratories with ISO/IEC 17025 accreditation and recognition under the Recognised Laboratory Programme to analyse samples.

Over 1 900 samples were collected and tested for agricultural compounds, veterinary medicines and environmental contaminants. Over 230 000 test results were obtained, with eight results higher than maximum permissible levels. This represents a conformance rate in New Zealand of 99.997%. No human health food safety issues were identified.

The reported results confirm regulatory compliance is being met and good agricultural practice is being followed in the use of agricultural compounds and veterinary medicines. The results of the species verification programme verified there was no species substitution.

2 Legal framework

The programme is given authority and operated in accordance with wide-ranging New Zealand legislation. The principle legislation is the Animal Products Act 1999, its subsidiary regulations and notices. Legislation is listed on the MPI website and full texts are available at the New Zealand Legislation website[1].

Primary Legislation (Act)	Activity	Secondary Legislation (Regulations)	Tertiary Legislation (Specifications or Notices)	Description
Animal Products Act 1999	Sampling regime, competent persons, testing	Animal Products (Regulated Control Scheme - Contaminant Monitoring and Surveillance) Regulations 2004	Animal Products Notice: Contaminant Monitoring and Surveillance	The legal basis for creating an operational sampling plan for animals, animal material and animal products (excluding honey) to be implemented at primary processors of meat and seafood, aquaculture farms and sale yards. This notice is renewed annually.
	Species Verification		Animal Products (Species Verification) 2014, No.2	The legal basis for sampling and testing raw boneless meat to confirm no species substitution

[1] http://www.parliament.nz/en-nz/

Primary Legislation (Act)	Activity	Secondary Legislation (Regulations)	Tertiary Legislation (Specifications or Notices)	Description
	MPLs (excluding honey)		Animal Products Notice: Contaminant Specifications	The legal basis for maximum (and default) permissible levels of contaminants in animals, animal material and animal products.
	Laboratory specifications		Animal Products Notice: Laboratory Specifications	Provides for recognition of laboratories providing testing services.
	Identification & management of HGP treated animals		Animal Products Notice: Regulated Control Scheme for Hormonal Growth Promotants	The legal basis for the identification and management of HGP treated animals to ensure export eligibility requirements are met.
	Control of Specified Substances		Animal Products (Control of Specified Substances) Notice 2007	The legal basis for the prohibition of use of certain specified substances in food producing animals
	Sampling regime, competent persons, testing for bee products		Animal Products Notice: Regulated Control Scheme – Monitoring of Specified Substances in Bee Products for Exports	The legal basis for creating an operational sampling plan for honey to be implemented at randomly selected suppliers of honey intended for domestic and export production, under the Animal Products Act 1999.
	Export MPLs (honey)		General requirement for export: 08/035 Contaminant Requirements for Bee Products for Export	The legal basis for maximum (and default) permissible levels of contaminants in honey intended for export.
	Identification & management of buparvaquone treated animals		Animal Products Notice: Specifications for animals treated with buparvaquone	The legal basis for the identification and management of buparvaquone treated animals to ensure export eligibility requirements are met.
	Authorisation of samplers		Animal Products (Export Requirement: Inspection Agencies Ante-mortem and Post-Mortem Inspection) Notice 2009	The legal basis for the collection of samples as a task associated with ante-mortem and post-mortem inspection.
	Procurement, slaughter and processing		Animal Products Notice: Specifications For Products Intended For Human Consumption	The legal basis for the procurement, slaughter and processing of animals, animal material and animal products for human consumption.
	Recognised Agencies		Animal Products (Recognised Agencies and Persons Specifications) Notice 2015	The legal basis for agencies to provide powers for particular activities such as verification
Food Act 2014 / Australia New Zealand Food Standards Code	Maximum Residue Levels	Food Regulations 2015	Food Notice: Maximum Residue Levels for Agricultural Compounds	The legal basis for maximum (and default) residue levels of residues and contaminants (not including metals) in food intended for domestic consumption.
	Maximum levels		Australia New Zealand Food Standards Code – Schedule 19: Maximum levels of contaminants and natural toxins	The legal basis for maximum levels of metal contaminants) in food intended for domestic consumption.
Agricultural Chemicals	Registration of agricultural			This Act provides for the registration and label conditions of veterinary

Primary Legislation (Act)	Activity	Secondary Legislation (Regulations)	Tertiary Legislation (Specifications or Notices)	Description
and Veterinary Medicines Act 1997	chemicals and veterinary medicines			medicines and agricultural chemicals.
Hazardous Substances and New Organisms Act 1996	Management of human and environmental exposure to substances			This Act has responsibility for imposing controls to limit exposure to a wide range of substances (including agricultural substances and veterinary medicines) to ensure public health and environmental safety
National Animal Identification and Tracing Act 2012	Identification and tracking of cattle and deer			This Act provides for the identification of cattle and deer using radio frequency identification ear tags as well as obligations that participants in the NAIT scheme must meet, for example, registering as a person in charge of animals. NAIT identification for buparvaquone and HGP treated animals is used to identify these animals at slaughter.
Veterinarians Act 2005				This Act provides for registration of veterinarians in New Zealand. Under this Act, and in accordance with their registration, veterinarians must perform to specified professional standards.

3 Programme design

3.1 MONITORING PROGRAMME

3.1.1 Criteria used to design the monitoring programme

The animal types, numbers of animals, animal products or animal material to be sampled and substances to be analysed in the monitoring programme depend on the risk profile of the residue or contaminant. The risk criteria used for the selection of substances includes all of the following:

- farming practices in New Zealand;
- new registrations of active ingredients and substances;
- exposure routes, including feed and environment;
- potential for misuse or abuse;
- persistence in the environment (risk prone areas);
- previous monitoring frequencies and findings (across both New Zealand Food Safety and industry programmes);
- availability of practical, regulatory analytical methods;
- international concern about the residues of a substance;
- regulatory requirements of international markets; and
- toxicity of a substance.

Networks provide information about new compounds, risks, analytical methods and instrumentation. The networks include some or all of the following:

- regular communication with the veterinary profession in New Zealand;
- meetings with the dairy, beef and lamb, and deer industries;

- information from other industry groups including: poultry, pigs, farmed salmon, honey, wild animals and ostriches;
- information provided by overseas competent authorities, New Zealand exporters (via their market contacts) and New Zealand embassy posts;
- media and technical publication scanning;
- participation in Codex and World Organisation for Animal Health; and
- attendance at international residues workshops and conferences.

3.1.2 Sampling plans

New Zealand Food Safety issues sampling plans for each of the components of the monitoring programme on a two-monthly, or annual basis. The sampling plans detail the random sampling requirements for each sampling site, i.e. species, animal type, animal product or animal material, sample matrix, and test (assay) number.

3.1.3 Sampling procedures

Recognised agencies responsible for residues sampling must have documented sampling procedures. These procedures ensure the supplier of the animal, animal material or animal product and the carcass or batch sampled are correctly identified, samples are handled in a manner that will avoid possible residue cross contamination and sample identity and integrity are maintained at all times.

3.1.4 Analytical service providers

All samples must be tested by recognised laboratories, using methods validated to an agreed international standard or in limited situations subject to in-house validation. Analytical services are supplied through commercial contracts awarded to laboratories by test characteristics.

3.1.5 Sample receipt and storage

The laboratory receives samples typically within 24 hours of dispatch. On receipt, samples are checked to ensure the security seals on the samples are intact and they are at the required temperature. Samples are stored securely under temperature control pending analysis.

3.2 SURVEILLANCE PROGRAMME

The surveillance programme targets animals, animal products or animal material for testing which pose a risk of containing residues greater than maximum levels. Animals targeted for sampling under this programme include some or all of the following:

- from surveillance listed suppliers or properties where residues greater than maximum levels have been identified from the monitoring programme;
- presenting with injection site lesions that do not meet the requirements of Directions issued pursuant to Section 81 of the Animal Products Act 1999;
- presenting with clinical conditions for which a veterinary medicine may have been used just prior to supply for slaughter; and
- an animal product officer has any other reason to suspect may have been exposed to agricultural compounds used not in accordance with the label conditions.

3.3 ACTIONS TAKEN WHEN RESULTS ARE ABOVE MAXIMUM LEVELS

Animal material or animal products for export needs to meet the specifications set in the following regulations and notices:

- Animal Products Notice: Contaminant Specifications;
- General Requirement for Export: 08/035 Contaminant Requirements for Bee Products for Export;
- any notice issued under Section 60A of the APA;
- Food Notice: Maximum Residue Levels for Agricultural Compounds;
- Food Regulations 2015;
- Australia New Zealand Food Standards Code, Schedule 19: Contaminants and natural toxicants.

When residues greater than maximum levels are identified, a trace back is begun and the residue finding investigated.

The most common regulatory action taken against the suppliers of animals from which residues greater than maximum levels were found is to place them on a surveillance list.

Suppliers remain on the surveillance list until surveillance sampling has confirmed that there are no further residue detections exceeding the maximum level in supplied animals and acceptable measures have been put in place to prevent reoccurrence.

In some situations, New Zealand Food Safety can prosecute suppliers. Where appropriate, animals may be subject to movement restrictions. Animals under movement restrictions may not be moved from a property without New Zealand Food Safety permission and may have to be specially identified.

4 Sampling and testing

New Zealand Food Safety tests samples from randomly selected live animals, animal material or animal products in the monitoring programme. A total of 1 934 samples were tested for a total of 233 657 results reported.

Sampling programme	Number of samples collected	Number of results reported
Bee 2018 / 2019	158	35 281
Farmed Salmon 2018 / 2019	143	1 866
Fish 2018 / 2019	17	388
Meat 2018 / 2019	1 552	187 262
Ostriches 2018 / 2019	3	499
Poultry 2018 / 2019	61	8 361
Total	**1 934**	**233 657**

5 Results

5.1 SUMMARY OF TEST RESULTS ABOVE MAXIMUM LEVELS

Eight results were higher than the maximum permissible levels made in the Animal Products Notice: Contaminant Specifications.

Substance and amount detected (mg/kg)	Animal and animal product sampled	NZ Standard (mg/kg)	Codex Standard (mg/kg)
Meat programme			
Brodifacoum – 0.0034	Pig (liver)	0.001[2]	-[3]
Bromadiolone – 0.0033	Pig (liver)	0.001[2]	-[3]
Coumatetralyl – 0.012		0.001[2]	-[3]
Closantel – 0.19	Goat (liver)	0.01[2]	-[3]
Diphacinone – 0.002	Cattle (liver)	0.001[2]	-[3]
Mercury – 0.037	Goat (liver)	0.03[2]	-[4]
Pirimiphos-methyl – 0.029	Pig (fat)	0.01[2]	0.01[3]
Bee programme			
Semicarbazide – 0.0006	Honey	0.0001[5]	-[3]

* Semicarbazide is used as a marker for nitrofurazone, which is listed as a prohibited substance.

[2] New Zealand Animal Products Notice: Contaminant Specifications, 27 July 2016
[3] FAO/WHO Food Standards Codex Alimentarius: Pesticide Residues in Food & Veterinary Drug Residues in Food
[4] FAO/WHO Food Standards Codex Alimentarius: General Standard for Contaminants and Toxins in Food and Feed, CXS 193-1995, Latest amended version 2019
[5] Animal Products General Requirements for Export - 08/035 Contaminant Requirements for Bee Products for Export

5.2 ACTIONS FOR TEST RESULTS ABOVE MAXIMUM LEVELS

5.2.1 Brodifacoum

One brodifacoum residue above the New Zealand standard[2] was detected in a free-range farmed pig. The amount of brodifacoum residue found did not pose a human or animal consumption food safety risk.

New Zealand Food Safety conducted a trace back to the supplier. It examined the supplier declaration, conducted a telephone interview and a site visit. It placed the supplier on the surveillance list. Further targeted testing did not show any reoccurrence of the original finding. The supplier was removed from the surveillance list.

New Zealand Food Safety attributed the cause of the brodifacoum finding to brodifacoum baits used for possum control in shelter belts adjacent to paddocks where pigs were kept. Following the finding, the supplier has reviewed positioning of bait stations and possum management strategy.

New Zealand Food Safety will continue to undertake random monitoring for brodifacoum in the 2019 / 2020 sampling programme.

5.2.2 Bromadiolone and coumatetralyl

Bromadiolone and coumatetralyl residues above the New Zealand standard[2] were detected in a farmed pig. The amount of rodenticide residues found did not pose a human or animal consumption food safety risk.

New Zealand Food Safety conducted a trace back and farm visits to the supplier. It placed the supplier was placed on the surveillance list. Further targeted testing showed reoccurrences of the original findings.

The farm records showed use of one rodenticide (bromadiolone) to manage the rodent population around the piggery. There was no record of coumatetralyl use.

New Zealand Food Safety attributed the cause of the bromadiolone findings to the supplier using bromadiolone baits outside of bait stations, where rodents could transfer them to areas where pigs had access, or contaminated rodent faeces being assessable to the pigs.

New Zealand Food Safety attributed the cause of the original coumatetralyl residue findings to historical use in the housing of a piggery recently acquired by the supplier.

The risk of rodenticide residues in pigs from the very necessary control of rodents around piggeries is a known issue[6]. Following the finding, the piggery has invested in environment control measures for rodent control and reinforced procedures with staff to maintain baits in bait stations away from pig housing.

New Zealand Food Safety identified potentially exposed pigs and permitted slaughter under the condition their livers (the risk tissue) were permanently excluded from human or animal consumption.

New Zealand Food Safety will continue to undertake random monitoring for bromadiolone and coumatetralyl in the 2019 / 2020 sampling programme.

5.2.3 Closantel

One closantel residue above the New Zealand standard[2] was detected in a farmed goat. The amount of closantel found did not pose a human or animal consumption food safety risk.

New Zealand Food Safety conducted a trace back to the supplier. It examined the supplier declaration with respect to withholding period and treatments and conducted a telephone interview with the supplier.

[6] http://australianpork.com.au/wp-content/uploads/2013/09/Rodenticide-FAQs-9-October-2015.pdf

The farm records showed the goats had been treated with a product with an on-label use in sheep, but not goats. The supplier had followed the on-label withholding instructions for sheep (28 days), not the default withholding period applicable to off-label use on goats (91 days).

New Zealand Food Safety placed the supplier was placed on the surveillance list. The supplier subsequently sold their farmed goats to another supplier and did not supply any further animals for primary processing. The supplier was as a result removed from the surveillance list.

New Zealand Food Safety will continue to undertake random monitoring for closantel in the 2019 / 2020 sampling programme.

5.2.4 Diphacinone

One diphacinone residue above the New Zealand standard[2] was detected in a cow. The amount of diphacinone residue found did not pose a human or animal consumption food safety risk.

New Zealand Food Safety conducted a trace back to the supplier. It examined the supplier declaration, conducted a telephone interview and a site visit.

The farm records did not show use of rodenticides to manage rodent or possum populations on the supplier's property. Territorial authorities and OSPRI records did not show the use of diphacinone to manage possum populations on or near the supplier's property either. The cause of the detection is unclear.

The supplier was placed on the national surveillance list and affected animal product was excluded from human or animal consumption. Further targeted testing showed reoccurrences of the residues. The supplier remains on the national surveillance list and restrictions on animal product from the supplier remain in place.

New Zealand Food Safety will continue to undertake random monitoring for diphacinone in the 2019 / 2020 sampling programme.

5.2.5 Mercury

One mercury residue above the New Zealand standard[2] was detected in a farmed goat. The amount of mercury residue found did not pose a human or animal consumption food safety risk.

New Zealand Food Safety conducted a trace back to the supplier. It examined the supplier declarations with respect to withholding period and treatments and conducted a telephone interview with the supplier.

The farm records showed no treatment of animals with veterinary medicines containing mercury. Environmental sources were investigated and identified as a possible source of the finding. The property was located in a geothermally active region, with a history of mining activities. Further, but separately, the animals were fed a number of supplementary feeds of both New Zealand and overseas origin. The precise cause of the detection is unclear.

New Zealand Food Safety placed the supplier on the surveillance list. Further targeted testing of animals from the property did not show any reoccurrence of the original finding. The supplier was removed from the national surveillance list.

New Zealand Food Safety will continue to undertake random monitoring for mercury in the 2019 / 2020 sampling programme.

5.2.6 Pirimiphos-methyl

One pirimiphos-methyl residue above the New Zealand standard[2] was detected in a pig. The amount of pirimiphos-methyl found did not pose a food safety risk.

New Zealand Food Safety conducted a trace back to the supplier. It examined the supplier declarations with respect to withholding period and treatments and conducted a telephone interview with the supplier.

The cause was identified as likely resulting from grain feed treated with a pirimiphos-methyl fumigant. Pirimiphos-methyl has a registered use as a fumigant in grain silos to manage pests.

MPI will continue to undertake random monitoring for pirimiphos-methyl in the 2019 / 2020 sampling programme.

5.2.7 Semicarbazide

One semicarbazide residue was detected in Weinmannia racemose (kāmahi) honey above the New Zealand standard[5]. The amount of semicarbazide found did not pose a food safety risk.

Semicarbazide has previously been reported[7] [8] in kāmahi honey. The UK Food and Environment Research Agency (FERA) reported[9] finding semicarbazide present in heather honey and described potential pathways for its natural formation from amino acids such as arginine and creatinine. It is also described as occurring naturally in shellfish seaweed, eggs and crustaceans. As well as resulting from anthropogenic processes, including blowing agent in plastic sealing gaskets, flour treatment agent (dough-improver), hypochlorite cleaning processes and whey protein purification. Evidence of its wide spread presence in many manufactured food products was published by the Nestle Research Centre, Switzerland[10].

Semicarbazide is not considered of concern for human health at the concentrations encountered in food[11], but it is used as a marker for nitrofurazone, which is listed as a prohibited substance in the European Union.

MPI will continue to undertake random monitoring for semicarbazide in the 2019 / 2020 sampling programme.

6 Conclusion

The reported results confirm regulatory compliance is being met and good agricultural practices are being followed in the use of agricultural compounds and veterinary medicines.

[7] New Zealand National Chemical Residues Programme Report. Results for July 1 2011 – June 30 2012 and proposed programme for July 1 2012 – June 30 2013 for Red Meat (including Ostrich & Emus and Wild Game), Honey, Farmed Salmon, Turkeys, Broilers and Ducks. December 2012

[8] New Zealand National Chemical Residues Programme Report. Results for July 1 2015 – June 30 2016 for bovine, ovine, caprine, cervine, equine, porcine and wild animals, and ostriches, honey, farmed salmon, fish, poultry, turkeys, and ducks. MPI Technical – Paper No: 2017/19. ISBN No: 978-1-77665-518-2 (online) ISSN No: 2253-3923 (online). February 2017.

[9] Crews, C., Potential natural sources of semicarbazide in honey – Report for the Food Standards Agency in Scotland – Project code FS241065. The Food and Environment Research Agency. 3rd July 2012

[10] Stadler R.H., Verzegnassi L., Seefelder W., Racault L. Why semicarbazide (SEM) is not an appropriate marker for the usage of nitrofurazone on agricultural animals. Food Addit. Contam. Part A. Chem. Anal.Control Expo. Risk Assess. 2015; 32(11):1842-50.

[11] Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids and Materials in Contact with Food on a request from the Commission related to semicarbazide in food. The EFSA Journal (2005) 219, 1-36.

7 Results tables

7.1 MONITORING PROGRAMME

7.1.1 Cattle (taken from live animals at sale yards)

Substances	Planned	Completed	Positive > NZ Standards[2]
Stilbenes, steroids and RALs	60	60	0
Thyrostats	60	60	0
Beta-agonists	60	60	0

7.1.2 Cattle (taken from slaughtered animals at primary processing premises)

Substances	Planned	Completed	Positive > NZ Standards[2]
Stilbenes, steroids and RALs	100	98	0
Beta-agonists	100	98	0
Phenicols	100	98	0
Antibacterial substances	160	160	0
Ceftiofur	15	15	0
Sulphonamides	60	60	0
Anticoccidials	100	99	0
Anthelmintics	100	100	0
Agricultural compounds	100	100	0
NSAIDs	100	100	0
1080	100	100	0
Heavy metals	15	15	0
Anticoagulants	100	100	1 (a)

(a) One detection of diphacinone above New Zealand standards[2].

7.1.3 Sheep

Substances	Planned	Completed	Positive > NZ Standards[2]
Stilbenes, steroids and RALs	100	99	0
Thyrostats	15	15	0
Beta-agonists	100	99	0
Phenicols	100	99	0
Antibacterial substances	100	100	0
Anticoccidials	100	100	0
Anthelmintics	100	100	0
Agricultural compounds	100	101	0
NSAIDs	100	102	0
1080	100	103	0
Heavy metals	15	15	0
Anticoagulants	100	100	0

7.1.4 Goats

Substances	Planned	Completed	Positive > NZ Standards[2]
Stilbenes, steroids and RALs	25	26	0
Thyrostats	15	15	0
Beta-agonists	25	26	0
Phenicols	25	26	0
Antibacterial substances	25	25	0
Anticoccidials	25	25	0
Anthelmintics	25	25	1 (a)
Agricultural compounds	25	25	0
NSAIDs	25	25	0
1080	25	25	0
Heavy metals	15	16	1 (b)
Anticoagulants	25	25	0

(a) One detection of closantel above New Zealand standards[2].

(b) One detection of mercury above New Zealand standards[2]

7.1.5 Deer

Substances	Planned	Completed	Positive > NZ Standards[2]
Stilbenes, steroids and RALs	75	74	0
Beta-agonists	75	74	0
Phenicols	75	74	0
Antibacterial substances	75	75	0
Anthelmintics	75	75	0
Agricultural compounds	75	75	0
Sedatives and other compounds	15	15	0
NSAIDs	75	75	0
1080	75	75	0
Heavy metals	15	15	0
Anticoagulants	75	75	0

7.1.6 Wild animals

Substances	Planned	Completed	Positive > NZ Standards[2]
1080	30	32	0
Anticoagulants	60	60	0
Heavy metals	15	16	0

7.1.7 Farmed salmon

Substances	Planned	Completed	Positive > NZ Standards[2]
Stilbenes, steroids and RALs	15	15	0
Phenicols	5	5	0
Nitrofurans	5	6	0
Nitroimidazoles	5	5	0
Antibacterial substances	48	48	0
Anthelmintics	18	18	0
Agricultural compounds	10	10	0
Isoeugenol	18	18	0
Heavy metals	10	9	0
Dyes	10	10	0

7.1.8 Ostriches

Substances	Planned	Completed	Positive > NZ Standards[2]
Stilbenes, steroids and RALs	1	1	0
Nitroimidazoles	1	1	0
Antibacterial substances	1	1	0
Anticoccidials	1	1	0
Agricultural compounds	1	1	0

7.1.9 Pigs

Substances	Planned	Completed	Positive > NZ Standards[2]
Beta-agonists	15	15	0
Antibacterial substances	15	15	0
Anticoccidials	15	15	0
Agricultural compounds	15	15	1 (a)
Carbadox	15	15	0
Anticoagulants	60	60	3 (b)(c)(d)

(a) One detection of pirimiphos-methyl above New Zealand standards[2].
(b) One detection of brodifacoum above New Zealand standards[2].
(c) One detection of bromadiolone above New Zealand standards[2].
(d) One detection of coumatetralyl above New Zealand standards[2].

7.1.10 Poultry, turkeys and ducks

Substances	Planned	Completed	Positive > NZ Standards[2]
Stilbenes, steroids and RALs	15	15	0
Antibacterial substances	15	15	0
Anticoccidials	15	15	0
Agricultural compounds	15	17	0

7.1.11 Honey

Substances	Planned	Completed	Positive > NZ Standards[12]
Phenicols	8	8	0
Nitrofurans	8	8	1 (a)
Nitroimidazoles	15	15	0
Antibacterial substances	40	40	0
Agricultural compounds	65	67	0
Heavy metals	16	18	0
Amitraz	20	21	0
Tutin	20	22	0

(a) One detection of semicarbazide above New Zealand standards[5].

7.1.12 Wild capture sea fish and crustaceans

Substances	Planned	Completed	Positive > NZ Standards[2]
Heavy metals	15	14	0

7.1.13 Fresh water eels

Substances	Planned	Completed	Positive > NZ Standards[2]
Polychlorinated dioxins, furans and dioxin-like PCBs	3	3	0
Indicator PCBs	3	3	0
Indicator PAHs	3	3	0
Anticoagulants	3	3	0
Organochlorine compounds	3	3	0

7.2 SURVEILLANCE PROGRAMME

The surveillance programme tested samples from targeted animal material, animal products or animals considered to be at-risk for residues or contaminants greater than maximum levels, supplied by persons on the surveillance list.

Substances	Honey	Cattle	Sheep	Pig
Amitraz	2 (a)			
Heavy metals		1 (b)		
Agricultural compounds			1 (c)	
Anticoagulants				94 (d)

(a) Two samples of honey from two suppliers on the surveillance list (amtiraz) were tested in 2018 / 2019. The results were compliant with the NZ standards[2].

(b) One sample of cattle liver from one suppliers on the surveillance list (mercury) was tested in 2018 / 2019. Identified risk source animal material was retained until test results showed compliance with the NZ standards[2].

(c) One sample of sheep fat from one suppliers on the surveillance list (oxyfluorfen) was tested in 2018 / 2019. The results were compliant with the NZ standards[2].

(d) 94 samples of pig liver and muscle from two suppliers on the surveillance list (bromadiolone, brodifacoum and coumatetralyl) were tested in 2018 / 2019. Identified risk source animal material was retained pending results and condemned until test results showed compliance with the NZ standards[2].

7.3 SPECIES VERIFICATION PROGRAMME

The test results verified there was no species substitution.

Planned	Completed	Tested true to label
300	302	302

[12] Animal Products General Requirements for Export - 08/035 Contaminant Requirements for Bee Products for Export