**Consolidated List of Tests for Animal Products: meat, poultry, honey, seafood, dairy, live animals and germplasm**

This list of tests provides guidance on what regulatory test(s) a laboratory may need to perform to be recognized by MPI for undertaking specific tests for live animals, on animal material or animal products, or on materials associated with the processing of animal material or animal products.

This list of tests would be useful for the general public, and for premises, certifiers, verifiers, and laboratories associated with the processing of animal material or animal products.

**Disclaimer**

This list of tests is not an exhaustive list of all tests for all animal material or animal products. Anyone seeking to confirm a test should always check the relevant OMAR or specifications.

This list of tests may change from time to time.

While every effort has been made to ensure that the information in the consolidated list is accurate, the Ministry for Primary Industries does not accept any responsibility or liability for any omission or error that may be present, nor for the consequences of any decisions based on this list of tests.

Note: for Dairy refer to the dairy tests as determined by the RMP and OMARs.

**To see the requirements for laboratories that have been, or are wanting to become recognised, to perform tests associated with live animals, animal material or animal products, or the processing of animal material or animal products, please refer to the:**

**Animal Products Specifications for Laboratories Notice 2015.**

| **Numerical Reference** | **Test** | **Animal Materials and Products and Associated Things** | **Method** |
| --- | --- | --- | --- |
| **MEAT & POULTRY INDUSTRY POTABLE WATER MICROBIOLOGY** | | | |
| 1.1.1 | Total coliforms (coliform bacteria), Escherichia coli | Potable water | MIMM 11.A1.1 rapid  MIMM 11.A2 with 11.A2.6  MIMM 11.3/11.4 with 11.5 |
| 1.2 | Faecal coliforms | Potable water, HC Specs | MIMM 11.4 mFC MF MIMM 11.A2 MPN |
| 1.3 | SPC 22°C/72 hours | Potable water | MIMM 11.6 SPC |
| 1.5.1 | Enterococcus | Potable water | MIMM 11.7, 11.9 |
| 1.6.1 | Clostridium perfringens (including spores) | Potable water | MIMM Membrane filter method for Clostridium perfringens 11.A3 |
| 1.8 | Escherichia coli | Potable water, HC Specs | MIMM 11.A1.1 Rapid  APHA |
| **MEAT & MEAT PRODUCT, POULTRY & HONEY MICROBIOLOGY/PARASITOLOGY** | | | |
| 2.1.1 | Aerobic Plate Count (APC) | Minced meat and mechanically separated meat | MIMM 6, APC or NMD 4.7 |
| 2.1.2 | APC spread plate | Bovine, bobby calf, caprine, cervine, ostrich and emu, ovine and pigs | NMD 3 sampling & NMD 4.7.2 |
| 2.1.3 | APC Petrifilm | Bovine, bobby calf, caprine, cervine, ostrich and emu, ovine and pigs | NMD 3 sampling & NMD 4.7.3 |
| 2.1.4 | APC spiral plater | Bovine, bobby calf, caprine, ostrich and emu, ovine and pigs | NMD 3 sampling & NMD 4.7.4 |
| 2.1.5 | APC | Packed edible tripe products | OMAR 09/35, must follow all sampling requirements |
| 2.1.6 | Total bacterial count (TBC), or APC | Fish meal (TBC) | Colony forming unit/gram method |
| Pet food (APC) | As per ISO 17025 accreditation |
| 2.2.1 | Escherichia coli, direct plate or Petrifilm | Minced meat, meat preparations and mechanically separated meat | MIMM 8.4 or NMD 4.8 – must state which method is being used |
| 2.2.2 | Escherichia coli, Petrifilm | Bovine, bobby calf, caprine, cervine, ostrich and emu, ovine and pigs | NMD 3 sampling & NMD 4.8 |
| 2.3 | Staphylococcus aureus | Minced meat, meat preparations and mechanically separated meat | MIMM 7.8 |

| **Numerical Reference** | **Test** | **Animal Materials and Products and Associated Things** | **Method** |
| --- | --- | --- | --- |
| 2.4.1 | Salmonella | Minced meat, meat preparations, mechanically separated meat, ready to eat products containing raw egg and meat products intended to be eaten raw | MIMM 7.7 with method verified for defined matrix; e.g. gelatine and collagen  Molecular microbiological methods in the laboratory scope of ISO 17025 accreditation for the matrix concerned |
| Blood products for use in feed. |
| Rendered meals |
| Rendered fats and fish oils not for human food |
| Processed pet food and flavouring innards |
| Processed animal proteins for feeding stuffs |
| Gelatine and collagen for human food, shelf life |
| Gelatine and collagen not for human food |
| Hydrolysed protein, di-calcium phosphate, tri-calcium phosphate not for human food |
| Egg products not for human food |
| Dried dietary foods for special medicinal purposes for infants below 6 months of age – excluding infant formula |
| Fish meal and fish oil | Presence/absence method suitable to matrix |
| 2.4.2 | Salmonella | Beef, veal and pig meat | Sampling plans and methods prescribed in the EU OMAR must be complied with.  ISO 6579:2002(E), or MIMM 7.7 with additional MKTTn broth in parallel as per ISO 6579:2002(E) using XLD and BGM plating media |
| 2.4.3 | Salmonella | Bovine, bobby calf, caprine, cervine, ostrich and emu, ovine, pigs and poultry | NMD 3 sampling & NMD 4.9 |
|
| Turkeys |
| 2.5 | Shigella | Fish meal | Presence/absence method |
| 2.6 | Listeria monocytogenes | Cooked, ready to eat meat products and environmental samples | MIMM 7.5  Molecular microbiological methods in the laboratory scope of ISO 17025 accreditation for the matrix concerned |
| Ready to eat foods including ready to eat foods for infants and special medicinal purposes – excluding infant formula. Environmental samples |
| Gelatine and collagen for human food |

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| --- | --- | --- | --- |
| **Numerical Reference** | **Test** | **Animal Materials and Products and Associated Things** | **Method** |
| 2.8 | Clostridium perfringens | Rendered fats and fish oils not for human food | MIMM 7.10 Sulphite reducing anaerobes |
| Processed animal proteins for feeding stuffs, pet food |
| 2.8.1 | Clostridium perfringens | Pet food | ISO 7937:2004. See also MIMM 7.10.3 re limits of detection |
| 2.9 | Enterobacteriaceae | Blood products for use in feed | MIMM 8.2 with method verified for defined matrix; e.g. rendered fats and fish oils |
| Rendered fats and fish oils not for human food |
| Processed pet food or flavoured innards |
| Processed animal proteins for feeding-stuffs |
| Gelatine and collagen not for human food |
| Hydrolysed protein, di-calcium phosphate, tri-calcium phosphate not for human food |
| Egg products not for human food |
| Dried infant formula processing areas and equipment |
| Fish meal | MPN method compatible with limit of ≤300 MPN/g |
| 2.9.1 | Cronobabacter species including Cronobacter sakazakii | Dried dietary foods for special medicinal purposes for infants below 6 months of age - excluding infant formula | FDA BAM, current edition ‘Cronobacter’  <http://www.fda.gov/food/foodscienceresearch/laboratorymethods/ucm289378.htm>  a molecular biological method or  ISO/TS 22964:2206 (IDF/RM 210:2006) confirmed 2013 or later edition  Method chosen must be verified |
| 2.10 | Faecal coliforms | Muslin/vegetable fibre used as wrapping materials | MIMM 8.5 |
| 2.10.1 | Total coliforms | Fish oil | MPN method compatible with limit of ≤ 300 MPN/g |
| 2.11 | Bacillus anthracis | Inedible meals, or other products as defined by MPI | OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals current edition.<http://www.oie.int/en/international-standard-setting/terrestrial-manual/access-online> |
| 2.12 | Trichinella spp. | Meat and meat products conforming to label requirements or standards | Method as per EU OMAR |
| 2.13 | Bovine Viral Diarrhoea (BVD) analysis | Bovine serum | Method as per ISO 17025 accreditation |
| 2.14 | American Foul Brood | Honey | Method as per ISO 17025 accreditation |

| **Numerical Reference** | **Test** | **Animal Materials and Products and Associated Things** | | **Method** |
| --- | --- | --- | --- | --- |
| 22.1 | Campylobacter | Poultry broiler carcasses | | NMD 3 sampling & NMD 4.10 |
| Turkeys | |
| 23.1 | Escherichia coli O157:H7 | Bulk manufacturing beef and bobby veal | | US OMAR |
| 23.2 | Non-O157 Shiga Toxin producing Escherichia coli | Bulk manufacturing beef and bobby veal | | US OMAR |
| 23.3 | Top 7 Shiga Toxin-producing Escherichia coli | | Bulk manufacturing beef and bobby veal | US OMAR |
| **MEAT - CHEMISTRY** | | | | |
| 3.1.1 | Proximate analysis - Ash | | Processed meat products | AOAC current edition 920.153 (39.1.09) |
| 3.1.2 | Proximate analysis - Fat | | Processed meat products | AOAC current edition 960.39 (39.1.05),  991.36 (39.1.08) |
| 3.1.3 | Proximate analysis - Moisture | | Processed meat products | AOAC current edition 950.46B (39.1.02) |
| 3.1.4 | Proximate analysis - Protein | | Processed meat products | AOAC current edition. 928.08 Alternative I & II,  981.10 (39.1.19) |
| **TALLOW AND FATS** | | | | |
| 4.01 | Insoluble impurities | | Rendered fats from ruminant materials and rendered fats for human food | AOAC Ca 3a – 46 most recent edition  MIRINZ 831 |
| 4.02 | FFA  (m/m % oleic acid) | | Rendered fats for human food | AOAC 1989 Ca 5a – 40 most recent edition MIRINZ 831 |
| 4.03 | Peroxide | | Rendered fats for human food | AOCS 1989 (latest issue 2003) current edition Cd 8-53  AOCS current edition Cd 8b-90  MIRINZ 831 |
| 4.04 | Moisture | | Rendered fats for human food | AOCS Ca 2a-45, (Dean and Stark method) most recent edition  AOCS, Ca 2b-38 (Hot Plate Method) most recent edition  AOCS Ca 2c-25 air oven method @ 130ºC most recent edition  AOCS Ca 2d-25 vacuum oven method most recent edition  MIRINZ 831 |

| **Numerical Reference** | **Test** | | **Animal Materials and Products and Associated Things** | **Method** |
| --- | --- | --- | --- | --- |
| **POTABLE WATER - PHYSICO-CHEMICAL PARAMETERS** | | | | |
| 5.01 | | Colour | Potable water | APHA latest edition or latest on-line edition, or as per scope of accreditation |
| 5.02 | | Conductivity | Potable water |
| 5.03 | | pH (hydrogen ion concentration) | Potable water |
| 5.04 | | Turbidity | Potable water |
| 5.10 | | Ammoniacal nitrogen (ammonium) | Potable water |
| 5.11 | | Chloride | Potable water |
| 5.12 | | Fluoride | Potable water |
| 5.13 | | Nitrate | Potable water |
| 5.14 | | Nitrite | Potable water |
| 5.16 | | Sulphate | Potable water |
| 5.17 | | Aluminium | Potable water |
| 5.18 | | Arsenic | Potable water |
| 5.19 | | Boron | Potable water |
| 5.20 | | Cadmium | Potable water |
| 5.22 | | Chromium | Potable water |
| 5.23 | | Copper | Potable water |
| 5.24 | | Cyanide | Potable water |
| 5.25 | | Iron | Potable water |
| 5.26 | | Lead | Potable water |
| 5.28 | | Manganese | Potable water |
| 5.29 | | Mercury | Potable water |
| 5.31 | | Sodium | Potable water |
| 5.32 | | Selenium | Potable water |
| 5.34 | | Chlorinated alkanes | Potable water |
| 5.35 | | Polynuclear aromatic hydrocarbons (PAH) | Potable water |
| 5.36 Pesticides: | | | | |
| 5.36.1 | acid herbicides: | | Potable water | APHA latest edition or latest on-line edition, or as per scope of accreditation |
| 2,4,5-T | |
| 2,4-D | |
| 2,4-DB | |
| Bentazone | |
| Dichlorprop | |
| Fenoprop | |
| MCPA | |
| Mecoprop | |
| Pentachlorophenol | |
| Picloram | |
| Triclopyr | |
| 5.36.2 | chlortoluron, diuron, thiabendazole | | Potable water | APHA latest edition or latest on-line edition ,or as per scope of accreditation |

| **Numerical Reference** | **Test** | **Animal Materials and Products and Associated Things** | **Method** |
| --- | --- | --- | --- |
| 5.36.3 | Semi Volatile Organic Compounds (SVOC): | Potable water | APHA latest edition or latest on-line edition, or as per scope of accreditation |
| Benzo(a)pyrene |
| Alachlor |
| Aldrin + dieldrin |
| Atrazine |
| Azinphos methyl |
| Bromacil |
| Carbofuran |
| Chlordane |
| Chlorpyriphos |
| Cyanazine |
| DDT + isomers |
| Diazinon |
| Dimethoate |
| Endrin |
| Heptachlor and heptachlor epoxide |
| Hexachlorobenzene |
| Hexazinone |
| Lindane |
| Metalaxyl |
| Methoxychlor |
| Metolachlor |
| Metribuzin |
| Oryzalin |
| Oxadiazon |
| Pendimethalin |
| Permethrin |
| Pirimiphos methyl |
| Procymidone |
| Simazine |
| Terbuthylazine |
| Trifluralin |
| 5.36.4 | 1080 | Potable water | APHA latest edition or latest on-line edition, or as per scope of accreditation |
| 5.36.5 | Diquat | Potable water |

| **Numerical Reference** | | | **Test** | **Animal Materials and Products and Associated Things** | **Method** |
| --- | --- | --- | --- | --- | --- |
| 5.39 | | Volatile Organic Compounds (VOC): | | Potable water | APHA latest edition or latest on-line edition, or as per scope of accreditation |
| Benzene | |
| 1,2-dichloroethane | |
| Tetrachloroethane and trichloroethane | |
| Tetrachloroethene and trichloroethene | |
| Vinyl chloride | |
| Epichlorhydrin | |
| 1,2-dibromo-3-chloropropane | |
| 1,2-dibromoethane | |
| 1,2-dichloropropane | |
| 1,3-dicholoropropene, cis | |
| 1,3-dichloropropene, trans | |
| 5.40 | | Trihalomethanes | | Potable water |
| 5.41 | | Oxidisability | | Potable water |
| 5.42 | | Total Organic Carbon (TOC) | | Potable water |
| 5.43 | | Acrylamide | | Potable water |
| 5.44 | | Antimony | | Potable water |
| 5.45 | | Bromate | | Potable water |
| 5.46 | | Nickel | | Potable water |
| **ANIMAL PRODUCTS IN GENERAL - COMPOSITION (includes vitamins, minerals and other nutrients)** | | | | | |
| 6.01 | | | Vitamin A, retinol | Meat and meat products conforming to label requirements or standards of composition | Official Methods of Analysis of the Association of Official Analytical Chemists, most recent edition |
| 6.02 | | | Vitamin B1, thiamine |
| 6.03 | | | Vitamin B2, riboflavin |
| 6.04 | | | Vitamin B3, niacin or nicotinic acid |
| 6.05 | | | Vitamin B5, pantothenic acid |
| 6.06 | | | Vitamin B6, pyridoxin |
| 6.07 | | | Folic acid or folate (a B vitamin) |
| 6.08 | | | Biotin (a B complex vitamin) |
| 6.09 | | | Vitamin B12, cyanocobalamin or hydroxocobalamin |
| 6.10 | | | Vitamin C, ascorbic acid |
| 6.11 | | | Vitamin D3, cholecalciferol |
| 6.12 | | | Vitamin E, D1-alphatocopherol |
| 6.13 | | | Vitamin K, menaquinone |
| 6.14 | | | Calcium, mineral |
| 6.15 | | | Chloride or chlorine, mineral |
| 6.16 | | | Copper, mineral |
| 6.17 | | | Fluoride or fluorine, mineral | Meat and meat products conforming to label requirements or standards of composition | Official Methods of Analysis of the Association of Official Analytical Chemists, most recent edition |
| 6.18 | | | Iodide or iodine, mineral |
| 6.19 | | | Iron, mineral |
| 6.20 | | | Magnesium, mineral |
| 6.21 | | | Manganese, mineral |
| 6.22 | | | Phosphorus mineral |
| 6.23 | | | Potassium, mineral |
| 6.24 | | | Sodium, mineral |
| 6.25 | | | Zinc, mineral |
| 6.26 | | | Choline, amino acid |
| 6.27 | | | Taurine, amino acid |
| 6.28 | | | Cholesterol |
| 6.29 | | | Dietary fibre, total and insoluble |
| 6.30 | | | Fatty acid profile |
| 6.31 | | | pH |
| 6.32 | | | Sulphated ash |
| 6.33 | | | Total sugar |
| **ANIMAL PRODUCTS IN GENERAL – FOOD ADDITIVES and INGREDIENTS** | | | | | |
| 7.01 | Benzoic acid or benzoates | | | Meat and meat products conforming to label requirements or standards of composition | Official Methods of Analysis of the Association of Official Analytical Chemists, most recent edition |
| 7.02 | Sorbic acid or sorbates | | |
| 7.03 | Nitrate | | |
| 7.04 | Nitrite | | |
| 7.05 | Salt NaCl | | |
| 7.06 | Sucrose | | |
| 7.07 | Reducing sugars | | |
| 7.08 | Invert sugar | | |
| 7.09 | Sugar profile | | |
| 7.10 | Sulphur dioxide or sulphates | | |
| **ANIMAL PRODUCTS - CHEMICAL RESIDUE TESTING (NRCP & NCCP)** | | | | | |
| 8.1 | Stilbenes plus steroids and resorcyclic acid lactones | | | Mammals, birds, fish, honey and dairy |  |
| 8.4 | Aminoglycosides | | | Mammals, birds, fish, honey and dairy | Antibacterial compounds |
| 8.5 | Beta-lactams | | | Mammals, birds, fish, honey and dairy | Antibacterial compounds |
| 8.6 | Cephalosporins | | | Mammals, birds, fish, honey and dairy | Antibacterial compounds |
| 8.7 | Tetracyclines | | | Mammals, birds, fish, honey and dairy | Antibacterial compounds |
| 8.8 | Amphenicols | | | Mammals, birds, fish, honey and dairy | Antibacterial compounds |

| **Numerical Reference** | **Test** | | **Animal Materials and Products and Associated Things** | **Method** |
| --- | --- | --- | --- | --- |
| 8.9 | Macrolides | | Mammals, birds, fish, honey and dairy | Antibacterial compounds |
| 8.9.1 | Virginiamycin | | Mammals | Antibacterial compounds |
| 8.10 | Sulphonamides | | Mammals, birds, fish, honey and dairy | Antibacterial compounds |
| 8.11 | Nitroimidazoles | | Mammals, birds, fish, honey and dairy | Antibacterial compounds |
| 8.12 | Carbadox | | Mammals | Anticoccidials |
| 8.13 | Benzamidazoles | | Mammals, birds, fish and dairy | Anthelmintics |
| 8.13.1 | Montepantel | | Mammals, birds, fish and dairy | Anthelmintics |
| 8.14 | Imidazothiazoles e.g. levamisol | | Mammals, birds, fish and dairy | Anthelmintics |
| 8.15 | Polyether coccidiostats | | Mammals, birds, fish, honey and dairy | Anticoccidials |
| 8.15.1 | Toltrazuril | | Mammals and birds | Anticoccidials |
| 8.16 | Milbemycin group | | Mammals, birds, fish, honey and dairy | Anthelmintics |
| 8.17 | Synthetic pyrethoids and carbamate pesticides | | Mammals, birds, fish, honey and dairy | Pesticides |
| 8.18 | Organophosphates | | Mammals, birds, fish, honey and dairy | Pesticides |
| 8.19 | Beta-Agonists | | Mammals, birds, fish and dairy |  |
| 8.20 | Heavy Metals | | Mammals, birds, fish and dairy |  |
| 8.21 | Organochlorines | | Mammals, birds, fish, honey and dairy | Pesticides |
| 8.22 | Species identity and verification | | Mammals, birds, fish, honey and dairy |  |
| 8.23 | Fluoroacetate/1080 | | Mammals, birds, fish, honey and dairy |  |
| 8.25 | Nitrofurans: furazolidone, furaltadone, nitrofurazone, nitrofurantoin, semicarbazide (SEM), aminooxizolidione  (AOZ), aminomorpholino-oxizolidone (AMOZ), aminohydantoin (AH) | | Mammals, birds, fish, honey and dairy | Antibacterial compounds |
| 8.26 | Anticoagulants | | Mammals, birds, fish, honey and dairy |  |
| 8.27 | Dioxins, coplanar PCBs, and polybromodiphenyl ethers (PBrDPE) and PAHs | | Mammals, birds, fish, honey and dairy |  |
| 8.28 | Quinolone antibiotics | | Mammals, birds, fish, honey and dairy | Antibacterial compounds |
| 8.29 | Non-steroidal anti-inflammatory substances (NSAIDS) e.g. phenyl butazone | | Mammals, birds, fish and dairy |  |
| 8.30 | Amprolium | | Mammals and birds | Anticoccidials |
| 8.31 | Hormonal growth promotants | | Mammals |  |
| 8.32 | Thyrostatic agents | | Mammals, birds and fish |  |
| 8.33 | Prostagenic substances | | Mammals, birds and fish |  |
| 8.34 | Corticosteriods | | Mammals, birds, fish and dairy |  |
| 8.35 | Halofuginone | | Mammals and birds | Anticoccidials |
| 8.36 | Robenidene | | Mammals, birds and fish | Anticoccidials |
| 8.37 | Malachite green and triphenyl methane dyes including gentian violet | | Fish |  |
| 8.38 | Chlorpromazine | | Mammals, birds and fish |  |
| 8.39 | Nicarbazin | | Birds | Anticoccidials |
| 8.40 | Paradichlorobenzene (PDB) | | Honey | Pesticides |
| 8.41 | Salicylanilides | | Mammals, birds | Anthelmintics |
| 8.42 | Tutin | | Honey |  |
| 8.43 | Melamine, dicyandiamide (DCD), cryomazine, dicyclanil and cyanuric acid | | Mammals, fish and dairy |  |
| 8.44 | Lignocaine and Xylazine | | Mammals and dairy | Sedative |
| 8.45 | Isoeugenol | | Fish | Sedative |
| 8.46 | Fungicides | | Mammals, birds, fish, honey and dairy | Fungicides |
| 8.47 | Herbicides | | Mammals, birds, fish, honey and dairy | Herbicides |
| 8.47.1 | Glyphosate | | Mammals, birds, fish, honey and dairy |  |
| 8.48 | Mycotoxins (fungal toxins) | | Mammals, birds, fish, honey and dairy |  |
| 8.49 | Neonicotinoids | | Honey |  |
| 8.50 | Pyrrolidiazine alkaloids | | Honey |  |
| 8.51 | Fumagillin | | Honey | Antibacterial compounds |
| 8.52 | Amitraz | | Mammals, birds, fish, honey and dairy | Pesticides |
| 8.53 | Phthalates | | Honey and dairy |  |
| 8.54 | Cleansing agents; phenols and cresols including chlorinated forms | | Mammals, birds, fish, honey and dairy |  |
| 8.55 | Nitrate and nitrite | | Dairy |  |
| 8.56 | Glycophosphate | | Dairy |  |
| 8.57 | Aldehydes | | Dairy |  |
| 8.58 | Dapsone | | Dairy |  |
| 8.59 | Buparvaquone (BPQ) | | Mammals and dairy |  |
| 8.60 | Quarternary ammonium compounds (QACs) | | Dairy |  |
| 8.61 | Chlorhexidine | | Dairy |  |
| 8.62 | Macrocyclic lactones | | Dairy | Anthelmintic |
| **GELATINE FOR HUMAN FOOD** | | | | |
| 9.08 | As | | Residues parameter |  |
| 9.09 | Pb | | Residues parameter |  |
| 9.10 | Hg | | Residues parameter |  |
| 9.11 | Cr | | Residues parameter |  |
| 9.12 | Cu | | Residues parameter |  |
| 9.13 | Zn | | Residues parameter |  |
| 9.16 | SO2 | | Residues parameter | Reith Williams |
| 9.17 | H2O2 | | Residues parameter | European Pharmacopoeia 1986 (V2O2) |
| 9.18 | Cd | | Residues parameter |  |
| **SEAFOOD PRODUCTS AND WATER** | | | | |
| 11.1.1 | Faecal coliforms | | Potable water  HC Specs schedule 1  COP, Part 2, section 4 | For faecal coliforms;  APHA  MIMM 11.4 mFC MF  MIMM 11.A2 MPN  For total coliforms/Escherichia coli  APHA  MIMM 11.A1.1 rapid  MIMM 11.A2 with 11.A2.6  MIMM 11.3/11.4 with 11.5 |
| 11.1.2 | Total coliforms  (coliform bacteria) Escherichia coli | | Potable water  HC Specs Schedule 1  COP, Part 2, Section 4 |
| 11.2.1 | Faecal coliforms | | Process water for ICSS listed premises  HC Specs clauses 124(2),125(4) |
| 11.2.3 | Total coliforms  (coliform bacteria) Escherichia coli | | Wet storage process water for ICSS listed premises  HC Specs clauses 124(2),125(4) |
| 11.2.4 | Chemical physical parameters | | Process water for ICSS listed premises  HC Specs clause 130 | Current editions of AOAC and APHA |
| 11.3.1 | Faecal coliforms | | Depuration process water for ICSS listed premises  HC Specs clauses 129, 130 | APHA  MIMM 11.4 mFC MF  MIMM 11.A2 MPN |
| 11.3.3 | Total coliforms  (coliform bacteria) Escherichia coli | | Depuration process water for ICSS listed premises  HC Specs clauses 129, 130 | APHA  MIMM 11.A1.1 rapid  MIMM 11.A2 with 11.A2.6  MIMM 11.3/11.4 with 11.5 |
| 11.4.1 | | Escherichia coli | Clean seawater for land based premises  HC Specs schedule 2 | No method specified |
| Clean seawater for fishing vessels  HC Specs clause 10 | No method specified  Testing only required at the discretion of DG |

| **Numerical Reference** | **Test** | | **Animal Materials and Products and Associated Things** | **Method** |
| --- | --- | --- | --- | --- |
| 11.4.2 | | Total coliforms | Clean seawater for land based premises  HC Specs schedule 2 | No method specified |
| Clean seawater for fishing vessels,  Limited processing Fishing Vessels RCS clause 20 and HC Specs clause 10 | No method specified  Testing only required at the discretion of DG |
| 11.5.3 | | SPC, also known as Total Viable Count (TVC), Total Plate Count (TPC) or Aerobic Plate Count (APC) | All fish | No method specified |
| 11.5.4 | | Staphylococcus aureus | All fish | No method specified |
| 11.5.6 | | Vibrio parahaemolyticus | All fish | As per current edition APHA or BAM as per laboratory’s scope of accreditation |
| 11.5.7 | | Heavy metals including mercury | All fish | As per current edition AOAC and APHA as per laboratory’s scope of accreditation |
| Fish species as specified |
| 11.5.8 | | Histamine | Fish species as specified | Examinations must be carried out in accordance with reliable, scientifically recognised methods, such as HPLC |
| Fish species matured in brine |
| All fish  HC Specs Clause 103(2) |
| 11.5.9 | | Total Volatile Basic Nitrogen (TVB-N) | All fish | TVB-N Fish Zlebensen or Journal of Food Protection 52, Issue 6, 1989 or APHA 4th compendium |
| 11.5.10 | | Escherichia coli | All fish | MPN method |
| 11.5.11 | | Salmonella | All fish | No method specified |
| 11.5.12 | | Vibrio cholerae | All fish | As per current edition of APHA or BAM |
| 11.6.1 | | Faecal coliforms | Bivalve molluscan shellfish growing waters  Clause 88(1) BMS RCS Specs | Approved methods as recommended by the National Shellfish Sanitation Programme (APHA 4th Ed 1970) |
| 11.6.2 | | Escherichia coli | Bivalve molluscan shellfish (flesh)  Clause 88(1) BMS RCS Specs | Enumeration of Escherichia coli in Molluscan Bivalve Shellfish, MPI Method |
| Raw harvested bivalve molluscan shellfish  HC Specs clause 121(2) |
| Live bivalve molluscs and live echinoderms, tunicates and gastropods |
| 11.6.3 | | Salmonella | Raw harvested bivalve molluscan shellfish  HC Specs clause 121(2) | EN/ISO 6579:2002 |
| Live bivalve molluscs and live echinoderms, tunicates and gastropods |
| Bivalve molluscan shellfish |
| 11.6.4 | | Vibrio parahaemolyticus | Bivalve molluscan shellfish  Clause 77 BMS RCS Specs | FDA BAM (most current edition) |
| 11.6.6 | | Heavy metals | Bivalve molluscan shellfish, Clause 7(6) BMS RCS Specs | Current editions of AOAC and APHA |
| Bivalve molluscan shellfish, crustaceans, cephalopods |
| 11.6.7 | | APC | Bivalve molluscan shellfish | No method specified |
| 11.7.1 | | PSP | Bivalve molluscan shellfish  HC Specs clause 121(5),  EU OMAR,  Clause 88(1) BMS RCS Specs | DG approved methods only |
| 11.7.2 | | DSP |
| 11.7.3 | | NSP |
| 11.7.4 | | ASP |
| 11.7.5 | | PTX |
| 11.7.6 | | YTX |
| 11.7.7 | | AZP |
| 11.8.1 | | Escherichia coli | Cooked crustaceans and molluscan shellfish | Enumeration of Escherichia coli in Molluscan Bivalve Shellfish, MPI Method |
| 11.8.2 | | Salmonella | Frozen pre-cooked crustaceans (flesh only) and cooked crustaceans  Cooked crustaceans and molluscan shellfish | EN/ISO 6579:2002  Or molecular microbiological methods in the laboratory scope of ISO17025 accreditation for the matrix tested as equivalent to EN/ISO 6579:2002 |
| Fishery products including bivalve molluscan shellfish | No method specified |
| 11.8.5 | | Listeria monocytogenes | Ready to eat fish, shellfish, crabs, rock lobster, fish products and environmental samples.  HC Specs Clause 142 | Presence/absence testing   1. FDA BAM (most current method version) 2. Meat Industry Microbiological Manual, Chapter 7.5 latest edition 3. Tecra Listeria Visual Immunoassay Kit 4. Clear View (Oxoid) Listeria Rapid Test Kit 5. Neogen Reveal 1.0 6. EN/ISO 11290-1(1996) and subsequent amendment (2004) 7. Molecular microbiological methods in the laboratory scope of ISO 17025 accreditation for the matrix concerned |
| Ready-to-eat foods able to support the growth of Listeria monocytogenes, other than those intended for infants and special medicinal purposes before the product has left the manufacturer’s control and where the operator is unable to satisfy MPI that the product will not exceed 100 cfu/g during the product’s shelf-life |
| Ready-to-eat foods able to support the growth of Listeria monocytogenes, other than those intended for infants and special medicinal purposes where the operator can satisfy MPI that the product will not exceed 100 cfu/g during the product’s shelf-life | Enumeration testing   1. FDA BAM (most current method version) 2. MIMM Chapter 7.5 latest edition 3. EN/ISO 11290-2 |
| 11.8.6 | | APC | Fishery products, including bivalve molluscan shellfish | No method specified |

|  |  |  |  |
| --- | --- | --- | --- |
| **Numerical Reference** | **Test** | **Animal Materials and Products and Associated Things** | **Method** |
| **DAIRY (RAW MILK)** | | | |
| 30.1 | Somatic Cells | Raw milk (cow) |  |
| 30.2 | Inhibitory Substances | Raw milk (all species) | One or more methods listed <http://www.nzfsa.govt.nz/dairy/registers-lists/approved.htm> |
| 30.3 | Freezing point  (to detect water adulterant) | Raw milk (all species) |  |
| 30.4 | Urea (milk integrity) | Raw milk (all species) |  |
| 30.5 | APC | Raw milk (all species) |  |
| 30.6 | Total coliforms | Raw milk (all species) |  |
| 30.7 | Thermodurics | Raw milk (all species) |  |
| 30.8 | Foreign matter | Raw milk (all species) |  |
| **DAIRY PRODUCTS - MICROBIOLOGY** | | | |
| 31.1 | APC / SPC / TCC | All dairy products |  |
| 31.2 | Bacillus cereus | All dairy products |  |
| 31.2.1 | Bacillus cereus Enterotoxin | All dairy products |  |
| 31.3 | Campylobacter | All dairy products |  |
| 31.4 | Clostridium botulinum | All dairy products |  |
| 31.5 | Clostridium perfringens | All dairy products |  |
| 31.6 | Coliforms (count) | All dairy products |  |
| 31.7 | Escherichia coli | All dairy products |  |
| 31.8 | Enterobacteriaceae | All dairy products |  |
| 31.9 | Faecal coliform | All dairy products |  |
| 31.10 | Listeria monocytogenes | All dairy products |  |
| 31.11 | Lipolytic organisms | All dairy products |  |
| 31.12 | Salmonella (detection) | All dairy products |  |
| 31.13 | Staphylococcal Enterotoxin | All dairy products |  |
| 31.14 | Staphylococcus aureus (Staphylococcus, Coagulase Positive) | All dairy products |  |
| 31.15 | Sulphite-reducing Clostridia (SRC) | All dairy products |  |
| 31.16 | Yeasts and Moulds | All dairy products |  |

| **Numerical Reference** | **Test** | **Animal Materials and Products and Associated Things** | **Method** |
| --- | --- | --- | --- |
| 31.17 | Cronobacter sakazakii (previously genus name was Enterobacter) | Infant formula |  |
| **DAIRY PRODUCTS - COMPOSITION (includes standards of identity, vitamins, minerals and other nutrients)** | | | |
| 32.1 | Fat | All dairy products |  |
| 32.2 | Fatty Acids | All dairy products |  |
| 32.3 | Moisture | All dairy products |  |
| 32.4 | Protein | All dairy products |  |
| 32.5 | Solids Non-Fat | All dairy products |  |
| 32.6 | Salt | All dairy products |  |
| 32.7 | Vitamin A (retinol) | All dairy products |  |
| 32.8 | Vitamin D2 (ergocalciferol) & Vitamin D3 (cholecalciferol) | All dairy products |  |
| 32.9 | Minerals: Sodium, Potassium, Chloride | All dairy products |  |
| 32.10 | Sugar | Icecream |  |
| 32.11 | Biotin | Infant formula composition |  |
| 32.12 | Calcium | Infant formula composition |  |
| 32.13 | Chloride | Infant formula composition |  |
| 32.14 | Folic acid | Infant formula composition |  |
| 32.15 | Ganglioside | Infant formula composition |  |
| 32.16 | Inositol | Infant formula composition |  |
| 32.17 | Inulin | Infant formula composition |  |
| 32.18 | Iodine value | Infant formula composition |  |
| 32.20 | Lutein | Infant formula composition |  |
| 32.21 | Nucleotides | Infant formula composition |  |
| 32.22 | Protein | Infant formula composition |  |
| 32.23 | Taurine | Infant formula composition |  |
| 32.24 | Vitamin A | Infant formula composition |  |
| 32.25 | Vitamin B1 | Infant formula composition |  |
| 32.26 | Vitamin B2 | Infant formula composition |  |
| 32.27 | Vitamin B3 | Infant formula composition |  |
| 32.28 | Vitamin B5 | Infant formula composition |  |
| 32.29 | Vitamin B6 | Infant formula composition |  |
| 32.30 | Vitamin B12 | Infant formula composition |  |
| 32.31 | Vitamin C | Infant formula composition |  |
| 32.32 | Vitamin K1 | Infant formula composition |  |

| **Numerical Reference** | **Test** | **Animal Materials and Products and Associated Things** | **Method** |
| --- | --- | --- | --- |
| **DAIRY PRODUCTS - PHYSICAL & CHEMICAL TESTS** | | | |
| 33.1 | Foreign Matter | All dairy products | One or more methods for this test is listed in <http://www.nzfsa.govt.nz/dairy/registers-lists/approved.htm> |
| 33.2 | Sediment | All dairy products |  |
| 33.3 | Freezing point (to detect water adulterant) | All dairy products |  |
| 33.4 | Phosphatase | All dairy products |  |
| 33.5 | Reichart-Meissl Value (fat) | All dairy products |  |
| 33.6 | Polenske Value (fat) | All dairy products |  |
| 33.7 | pH | All dairy products |  |
| 33.8 | Titratable Acidity | All dairy products |  |
| 33.9 | Solubility (insolubility index) | All dairy products |  |
| 33.10 | Aflatoxin | All dairy products |  |
| 33.11 | Peroxide value | All dairy products |  |
| 33.12 | Radionuclides | All dairy products |  |
| 33.13 | Ash | All dairy products |  |
| 33.14 | Hydrogen peroxide | All dairy products |  |
| 33.15 | Scorched particles | All dairy products |  |

| **Numerical Reference** | **Test** | **Animal Materials and Products and Associated Things** | **Method** |
| --- | --- | --- | --- |
| **LIVE ANIMALS and GERMPLASM – DISEASE TESTS** | | | |
| 50.1 | Aerobic bacteria | | Bacterial culture, propagation |
| 51.1 | Aeromonas salmonicida | | Bacterial culture, propagation |
| 52.1 | Akabane virus | | Virus neutralisation test (VNT), antibody detection |
| 53.1 | Anaplasmosis | | Complement fixation test (CFT), antibody detection |
| 54.1 | Avian influenza virus | | Agar-gel immunodiffusion test (AGID test), antibody detection |
| 55.1 | Avian influenza virus | | Enzyme-linked immunosorbent assay – antibody detection (ELISA-Ab), antibody |
| 55.2 | Avian influenza virus | | Hemagglutination inhibition test (HI), antibody detection |
| 55.3 | Avian influenza virus | | Virus isolation (VI), propagation |
| 55.4 | Avian paramyxovirus serotype 1 (APMV-1)-NDV | | Polymerase chain reaction - RNA, DNA detection (PCR), molecular biology |
| 55.5 | Avian paramyxovirus serotype 2 (APMV-2)-Yucaipa | | HI, antibody detection |
| 55.6 | Avian paramyxovirus serotype 2 (APMV-2)-Yucaipa | | PCR, molecular biology |
| 55.7 | Avian paramyxovirus serotype 3 (APMV-3) | | HI, antibody detection |
| 55.8 | Avian paramyxovirus serotype 3 (APMV-3) | | PCR, molecular biology |
| 55.9 | Avian pneumovirus (turkey rhinotracheitis) | | ELISA-Ab, antibody detection |
| 55.10 | Avian virus | | VI, propagation |
| 56.1 | Babesia caballi | | ELISA-Ab, antibody detection |
| 56.2 | Babesia caballi | | Immunofluorescence antibody test (IFAT), antibody detection |
| 56.3 | Babesia gibsoni | | IFAT, antibody detection |
| 56.4 | Babesia gibsoni | | PCR, molecular biology |
| 56.5 | Blood parasites (Babesia spp.) | | Blood smear, visualisation |
| 57.1 | Bluetongue virus | | AGID test – antibody detection |
| 57.2 | Bluetongue virus | | ELISA-Ab, antibody detection |
| 58.1 | Bovine herpesvirus 1 | | PCR, molecular biology |
| 59.1 | Bovine viral diarrhoea virus (BVDV) | | ELISA-Ab, antibody detection |
| 59.2 | Bovine viral diarrhoea virus (BVDV) | | Enzyme-linked immunosorbent assay – antigen detection (ELISA-Ag), antigen detection |
| 59.3 | Bovine viral diarrhoea virus (BVDV) | | PCR, molecular biology |
| 59.4 | Bovine viral diarrhoea virus (BVDV) | | VI, propagation |
| 59.5 | Bovine viral diarrhoea virus (BVDV) | | VNT, antibody detection |
| 59.6 | Bovine viral diarrhoea virus (BVDV) | | 2 passages, propagation |
| 60.1 | Brucella abortus | | Serum agglutination test - American (SAT AM), antibody detection |
| 60.2 | Brucella abortus | | Serum agglutination test - European (SAT EU), antibody detection |
| 60.3 | Brucella canis | | Rapid slide agglutination (RSA), antibody detection |
| 60.4 | Brucella ovis | | ELISA-Ab, antibody detection |
| 60.5 | Brucella ovis | | CFT, antibody detection |
| 60.6 | Brucella spp. (B. melitensis, B suis) | | ELISA-Ab, antibody detection |
| 60.7 | Brucella spp. (B. melitensis) | | CFT, antibody detection |
| 61.1 | Campylobacter spp. | | Bacterial culture, propagation |
| 61.2 | Campylobacter fetus subsp. venerealis | | Bacterial culture, propagation |
| 62.1 | Canine/feline heartworm | | ELISA-Ag, antigen detection |
| 63.1 | Caprine arthritis-encephalitis (CAE) virus | | ELISA-Ab, antibody |
| 64.1 | Cervine herpesvirus type-1 | | VNT, antibody detection |
| 65.1 | Cytopathic fish virus | | VI, propagation |
| 66.1 | EDS 76 | | HI, antibody detection |
| 67.1 | Ehrlichia canis | | IFAT, antibody detection |
| 68.1 | Enzootic bovine leukosis (EBL) | | ELISA-Ab, antibody detection |
| 68.2 | Enzootic bovine leukosis (EBL) | | AGID, antibody detection |
| 69.1 | Epizootic haemorrhagic disease (EHD) | | AGID, antibody detection |
| 70.1 | Equine herpes virus | | VNT, antibody detection |
| 70.2 | Equine herpes virus - 1 | | ELISA-Ab, antibody detection |
| 70.3 | Equine herpes virus - 4 | | ELISA-Ab, antibody detection |
| 71.1 | Equine infectious anaemia | | AGID, antibody detection |
| 71.2 | Equine influenza virus | | HI, antibody detection |
| 71.3 | Equine influenza virus | | PCR, molecular biology |
| 72.1 | Equine viral arteritis (EVA) virus | | VI, propagation |
| 72.2 | Equine viral arteritis (EVA) virus | | VNT, antibody detection |
| 73.1 | Infectious bovine rhinotracheitis (IBR) | | ELISA-Ab, antibody detection |
| 73.2 | Infectious bovine rhinotracheitis (IBR) | | ELISA-Ab, antibody detection |
| 73.3 | Infectious bovine rhinotracheitis (IBR) | | VI, propagation |
| 74.1 | Infectious bursal disease (IBD) | | ELISA-Ab, antibody detection |
| 74.2 | Infectious bursal disease (IBD) | | PCR, molecular biology |
| 74.3 | Infectious bursal disease (IBD) | | VNT, antibody detection |
| 75.1 | Influenza | | PCR, molecular biology |
| 75.2 | Influenza A + B | | Lateral flow device (LFD), antigen detection |
| 76.1 | Johne’s disease (JD) | | AGID, antibody detection |
| 76.2 | Johne’s disease (JD) | | CFT, antibody detection |
| 76.3 | Johne’s disease (JD) | | ELISA-Ab, antibody detection |
| 77.1 | Leishmania spp. | | IFAT, antibody detection |
| 77.2 | Leptospira ballum (1) | | Microscopic agglutination test (MAT), antibody detection |
| 77.3 | Leptospira bratislava (2) | | MAT, antibody detection |
| 77.4 | Leptospira canicola (3) | | MAT, antibody detection |
| 77.5 | Leptospira copenhageni (4) | | MAT, antibody detection |
| 77.6 | Leptospira grippotyphosa(5) | | MAT, antibody detection |
| 77.7 | Leptospira hardjo-bovis (6) | | MAT, antibody detection |
| 77.8 | Leptospira iceterohaemorrhagiae (7) | | MAT, antibody detection |
| 77.9 | Leptospira pomona (8) | | MAT, antibody detection |
| 77.10 | Leptospira tarassovi (9) | | MAT, antibody detection |
| 78.1 | Lyssa virus | | IFAT, antibody detection |
| 79.1 | Maedi visna (MV) virus | | ELISA-Ab, antibody detection |
| 80.1 | Malignant catarrhal fever | | PCR, molecular biology |
| 81.1 | Microfilariae | | Knott’s test, visualisation |
| 82.1 | Mycoplasma spp. | | Bacterial culture, propagation |
| 82.2 | Mycoplasma agalactiae | | ELISA-Ab, antibody detection |
| 82.3 | Mycoplasma capricolum subsp. capricolum | | CFT antibody detection |
| 83.4 | Mycoplasma gallisepticum | | RSA, antibody |
| 84.5 | Mycoplasma mycoides mycoides Large colony | | CFT antibody detection |
| 85.6 | Mycoplasma synoviae | | RSA, antibody |
| 86.7 | Mycoplasma meleagridis | | RSA, antibody detection |
| 87.8 | Myxobolus cerebralis | | Microscopy, visualisation |
| 88.1 | Newcastle disease virus (NDV) | | ELISA-Ab, antibody detection |
| 88.2 | Newcastle disease virus (NDV) | | HI, antibody detection |
| 88.3 | Newcastle disease virus (NDV) | | VI, propagation |
| 89.1 | Ornithobacterium rhinotracheale | | Bacterial culture, propagation |
| 90.1 | Palyam virus | | AGID, antibody detection |
| 91.1 | Parainfluenza virus type-3 | | VI, propagation |
| 92.1 | Parasite eggs | | Faecal egg count, visualisation |
| 93.1 | Pestivirus/hairy shaker disease virus/  border disease virus | | VI, propagation |
| 93.2 | Hairy shaker disease virus / border disease virus | | 2 passages, propagation |
| 94.1 | Porcine parvovirus | | ELISA-Ab, antibody detection |
| 95.1 | Q fever | | CFT, antibody detection |
| 95.2 | Q fever | | ELISA-Ab, antibody detection |
| 95.3 | Q fever | | PCR, molecular biology |
| 96.1 | Rabies virus | | Rapid fluorescent focus inhibition test (RFFIT), antibody detection |
| 97.1 | Renibacterium salmoninarum | | PCR, molecular biology |
| 98.1 | Salmonella spp | | Bacterial culture, propagation |
| 98.2 | Salmonella spp | | ELISA-Ab, antibody detection |
| 98.3 | Salmonella specific serotypes:  including S. Typhimurium and S. Enteriditis | | Bacterial culture, propagation |
| 98.4 | Salmonella arizona | | Bacterial culture, propagation |
| 98.5 | Salmonella pullorum | | SAT, antibody detection |
| 99.1 | Streptococcus equi subsp., equi culture | | Bacterial culture, propagation |
| 100.1 | Taylorella equigenitalis | | Bacterial culture, propagation |
| 101.1 | Theileria equi | | ELISA-Ab, antibody detection |
| 101.2 | Theileria equi | | IFAT, antibody detection |
| 102.1 | Ticks | | Identification, visualisation |
| 103.1 | Trichinella spiralis | | ELISA, antibody detection |
| 103.2 | Trichinella spiralis | | Pepsin digestion, visualisation |
| 103.3 | Trichomonas foetus | | Bacterial culture, propagation |
| 104.1 | Yersinia ruckeri | | Bacterial culture, propagation |
| 105.1 | West Nile Virus | | ELISA-Ab, antibody detection |

**Abbreviations:**

* AOAC = Association of Official Analytical Chemists
* AOCS = Official Methods and Recommended Practices of the American Oil Chemist’s Society AOCS
* APHA 4th edition 1970 = American Public Health Association. 1970. Recommended Procedures for the Examination of Sea Water and Shellfish, 4th edition, APHA, New York, N.Y. Note that this edition is out of print, but this is the edition specified by FDA. Library copies are held at ESR Christchurch and ESR Mt Albert
* APHA = Standard Methods for the Examination of Water and Wastewater (American Public Health Association) latest edition
* BMS RCS Specs = Animal Products (Specifications for Bivalve Molluscan Shellfish) Notice 2006
* COP = Code of Practice, Processing of Seafood Products
* HC Specs = Animal Products (Specifications For Products Intended For Human Consumption) Notice 2013
* HPLC = high pressure liquid chromatography
* MF = membrane filtration
* MIMM = Meat Industry Microbiological Methods, latest edition
* MIRNZ 831 = Morris M.A., Methods for Determining the Physical and Chemical Properties of Products and Wastes of Rendering Departments  
  [Volume 831 of MIRINZ (Series)](http://www.google.co.nz/search?tbo=p&tbm=bks&q=bibliogroup:%22MIRINZ+(Series)%22&source=gbs_metadata_r&cad=2)
* NCCP = National Chemical Contaminants Programme (dairy)
* NCRP = National Contaminant Residue Programme (non-dairy)
* NMD = National Microbiological Database
* OMAR = Overseas Market Access Requirement

<http://www.foodsafety.govt.nz/industry/exporting/market-access/omars.htm>

* RCS = Regulated Control Scheme