# Emu residue testing annual datasets 2020–21

National Residue Survey (NRS), Department of Agriculture, Water and the Environment

## Dataset abbreviations

**LOR** Limit of reporting.

**MRL** Maximum Residue Limit.

**no limit** No Australian standard applicable for the contaminant. The ‘as low as reasonably achievable’ principle applies. Detections at low levels are allowable.

**not defined** Standards are not defined in inedible matrixes (urine, retina and faeces).

**not set** No Australian standard has been set for the chemical in the edible matrix and any detection is a contravention of the Australia New Zealand Food Standards Code.

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**Table 1: Anthelmintics**

| **Chemical** | **Matrix** | **LOR (mg/kg)** | **MRL(mg/kg)** | **Number of samples tested** | **>LOR to ≤½MRL** | **>½MRL to ≤MRL** | **>MRL** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| abamectin | fat | 0.005 | not set | 1 | 0 | 0 | 0 |
| derquantel | fat | 0.001 | not set | 1 | 0 | 0 | 0 |
| doramectin | fat | 0.005 | not set | 1 | 0 | 0 | 0 |
| emamectin | fat | 0.002 | not set | 1 | 0 | 0 | 0 |
| eprinomectin B1a | fat | 0.005 | not set | 1 | 0 | 0 | 0 |
| fluensulfone | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| ivermectin H2B1a | fat | 0.005 | not set | 1 | 0 | 0 | 0 |
| milbemectin | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| monepantel sulphone | fat | 0.005 | not set | 1 | 0 | 0 | 0 |
| moxidectin | fat | 0.005 | not set | 1 | 0 | 0 | 0 |
| praziquantel | fat | 0.005 | not set | 1 | 0 | 0 | 0 |

**Table 2: Antibiotics**

| **Chemical** | **Matrix** | **LOR (mg/kg)** | **MRL(mg/kg)** | **Number of samples tested** | **>LOR to ≤½MRL** | **>½MRL to ≤MRL** | **>MRL** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| amoxicillin | kidney | 0.01 | 0.01 | 2 | 0 | 0 | 0 |
| ampicillin | kidney | 0.01 | not set | 2 | 0 | 0 | 0 |
| apramycin | kidney | 0.25 | 1 | 2 | 0 | 0 | 0 |
| avilamycin | kidney | 0.1 | 0.05 | 2 | 0 | 0 | 0 |
| benzyl G penicillin | kidney | 0.01 | not set | 2 | 0 | 0 | 0 |
| ceftiofur (desfuroylceftiofur) | kidney | 0.2 | not set | 2 | 0 | 0 | 0 |
| cefuroxime | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| cephalonium | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| chlortetracycline | kidney | 0.01 | 0.6 | 2 | 0 | 0 | 0 |
| cloxacillin | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| dihydrostreptomycin | kidney | 0.1 | not set | 2 | 0 | 0 | 0 |
| dimetridazole | muscle | 0.0001 | not set | 2 | 0 | 0 | 0 |
| doxycycline | kidney | 0.01 | not set | 2 | 0 | 0 | 0 |
| erythromycin | kidney | 0.1 | 0.3 | 2 | 0 | 0 | 0 |
| gentamycin | kidney | 0.1 | not set | 2 | 0 | 0 | 0 |
| lincomycin | kidney | 0.1 | 0.1 | 2 | 0 | 0 | 0 |
| metronidazole | muscle | 0.0001 | not set | 2 | 0 | 0 | 0 |
| neomycin | kidney | 0.1 | 10 | 2 | 0 | 0 | 0 |
| oleandomycin | kidney | 0.2 | not set | 2 | 0 | 0 | 0 |
| oxytetracycline | kidney | 0.01 | 0.6 | 2 | 0 | 0 | 0 |
| ronidazole | muscle | 0.0001 | not set | 2 | 0 | 0 | 0 |
| streptomycin | kidney | 0.1 | not set | 2 | 0 | 0 | 0 |
| sulfachloropyridazine | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| sulfadiazine | kidney | 0.05 | 0.1 | 2 | 0 | 0 | 0 |
| sulfadimethoxine | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| sulfadimidine (sulfamethazine) | kidney | 0.05 | 0.1 | 2 | 0 | 0 | 0 |
| sulfadoxine | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| sulfafurazole  | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| sulfamerazine | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| sulfamethoxazole | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| sulfamethoxydiazine (sulfameter) | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| sulfamethoxypyridazine | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| sulfapyridine | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| sulfaquinoxaline | kidney | 0.05 | 0.1 | 2 | 0 | 0 | 0 |
| sulfathiazole | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| sulfatroxazole | kidney | 0.05 | not set | 2 | 0 | 0 | 0 |
| tetracycline | kidney | 0.01 | not set | 2 | 0 | 0 | 0 |
| tilmicosin | kidney | 0.2 | not set | 2 | 0 | 0 | 0 |
| trimethoprim | kidney | 0.05 | 0.05 | 2 | 0 | 0 | 0 |
| tulathromycin | kidney | 0.3 | not set | 2 | 0 | 0 | 0 |
| tylosin | kidney | 0.1 | 0.2 | 2 | 0 | 0 | 0 |
| virginiamycin | kidney | 0.005 | 0.2 | 2 | 0 | 0 | 0 |

**Table 3: Contaminants**

| **Chemical** | **Matrix** | **LOR (mg/kg)** | **MRL(mg/kg)** | **Number of samples tested** | **>LOR to ≤½MRL** | **>½MRL to ≤MRL** | **>MRL** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| aldrin and dieldrin (HHDN+HEOD) | fat | 0.02 | 0.2 | 1 | 0 | 0 | 0 |
| arochlor 1254 | fat | 0.03 | 0.2 | 1 | 0 | 0 | 0 |
| arochlor 1260 | fat | 0.03 | 0.2 | 1 | 0 | 0 | 0 |
| chlordane | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| DDT | fat | 0.05 | 5 | 1 | 0 | 0 | 0 |
| endosulfan | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| endrin | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| HCB (hexachlorobenzene) | fat | 0.02 | 1 | 1 | 0 | 0 | 0 |
| HCH (BHC) | fat | 0.02 | 0.3 | 1 | 0 | 0 | 0 |
| heptachlor | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| lindane (gamma-HCH) | fat | 0.01 | 0.7 | 1 | 0 | 0 | 0 |
| mirex | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| pentachlorobenzene | fat | 0.02 | not set | 1 | 0 | 0 | 0 |

**Table 4: Fungicides**

| **Chemical** | **Matrix** | **LOR (mg/kg)** | **MRL(mg/kg)** | **Number of samples tested** | **>LOR to ≤½MRL** | **>½MRL to ≤MRL** | **>MRL** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| amisulbrom | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| azoxystrobin | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| bixafen | fat | 0.02 | 0.02 | 1 | 0 | 0 | 0 |
| boscalid | fat | 0.01 | 0.5 | 1 | 0 | 0 | 0 |
| carbendazim | fat | 0.01 | 0.1 | 1 | 0 | 0 | 0 |
| cyproconazole | fat | 0.02 | 0.01 | 1 | 0 | 0 | 0 |
| difenoconazole | fat | 0.01 | 0.05 | 1 | 0 | 0 | 0 |
| epoxiconazole | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| fenpyrazamine | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| fludioxonil | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| fluopicolide | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| fluopyram  | fat | 0.01 | 0.02 | 1 | 0 | 0 | 0 |
| fluquinconazole | fat | 0.01 | 0.02 | 1 | 0 | 0 | 0 |
| flutriafol | fat | 0.02 | 0.05 | 1 | 0 | 0 | 0 |
| fluxapyroxad | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| imazalil | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| isopyrazam | fat | 0.01 | 0.005 | 1 | 0 | 0 | 0 |
| mandestrobin | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| procymidone | fat | 0.02 | 0.1 | 1 | 0 | 0 | 0 |
| propamocarb | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| propiconazole | fat | 0.02 | 0.1 | 1 | 0 | 0 | 0 |
| prothioconazole | fat | 0.02 | 0.05 | 1 | 0 | 0 | 0 |
| pydiflumetofen | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| pyraclostrobin | fat | 0.01 | 0.05 | 1 | 0 | 0 | 0 |
| pyrimethanil | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| pyriofenone | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| quinoxyfen | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| quintozene | fat | 0.02 | 0.1 | 1 | 0 | 0 | 0 |
| spiroxamine | fat | 0.01 | 0.05 | 1 | 0 | 0 | 0 |
| tebuconazole | fat | 0.01 | 0.1 | 1 | 0 | 0 | 0 |
| trifloxystrobin | fat | 0.01 | not set | 1 | 0 | 0 | 0 |

**Table 5: Herbicides**

| **Chemical** | **Matrix** | **LOR (mg/kg)** | **MRL(mg/kg)** | **Number of samples tested** | **>LOR to ≤½MRL** | **>½MRL to ≤MRL** | **>MRL** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| amicarbazone | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| Cloquintocet-mexyl | fat | 0.01 | 0.1 | 1 | 0 | 0 | 0 |
| ethofumesate | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| florpyrauxifen-benzyl | fat | 0.01 | 0.02 | 1 | 0 | 0 | 0 |
| indaziflam | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| metamitron | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| metazachlor | fat | 0.01 | 0.05 | 1 | 0 | 0 | 0 |
| metolachlor | fat | 0.02 | 0.01 | 1 | 0 | 0 | 0 |
| propachlor | fat | 0.02 | 0.02 | 1 | 0 | 0 | 0 |
| pyrasulfotole | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| pyroxsulam | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| saflufenacil  | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| topramezone | fat | 0.01 | not set | 1 | 0 | 0 | 0 |

**Table 6: Insecticides**

| **Chemical** | **Matrix** | **LOR (mg/kg)** | **MRL(mg/kg)** | **Number of samples tested** | **>LOR to ≤½MRL** | **>½MRL to ≤MRL** | **>MRL** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| acetamiprid  | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| afidopyropen | fat | 0.012 | 0.1 | 1 | 0 | 0 | 0 |
| bifenthrin | fat | 0.02 | 0.05 | 1 | 0 | 0 | 0 |
| bioresmethrin | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| carbaryl | fat | 0.01 | 0.02 | 1 | 0 | 0 | 0 |
| chlorantraniliprole | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| chlorfenapyr | fat | 0.02 | 0.01 | 1 | 0 | 0 | 0 |
| chlorfenvinphos (sum of isomers) | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| chlorpyrifos | fat | 0.01 | 0.1 | 1 | 0 | 0 | 0 |
| chlorpyrifos-methyl | fat | 0.01 | 0.05 | 1 | 0 | 0 | 0 |
| clothianidin | fat | 0.01 | 0.02 | 1 | 0 | 0 | 0 |
| coumaphos  | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| cyantraniliprole | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| cyclaniliprole | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| cyfluthrin (sum of isomers) | fat | 0.02 | 0.01 | 1 | 0 | 0 | 0 |
| cyhalothrin (sum of isomers) | fat | 0.02 | 0.02 | 1 | 0 | 0 | 0 |
| cypermethrin (sum of isomers) | fat | 0.02 | 0.05 | 1 | 0 | 0 | 0 |
| deltamethrin | fat | 0.02 | 0.01 | 1 | 0 | 0 | 0 |
| diafenthiuron | fat | 0.01 | 0.02 | 1 | 0 | 0 | 0 |
| diazinon | fat | 0.02 | 0.05 | 1 | 0 | 0 | 0 |
| dichlorvos | fat | 0.02 | 0.01 | 1 | 0 | 0 | 0 |
| dicofol | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| dimethoate | fat | 0.02 | 0.05 | 1 | 0 | 0 | 0 |
| dinotefuran | fat | 0.03 | 0.02 | 1 | 0 | 0 | 0 |
| ethion | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| famphur | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| famphur oxygen-analogue | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| fenitrothion | fat | 0.02 | 0.05 | 1 | 0 | 0 | 0 |
| fenthion | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| fenvalerate (sum of isomers) | fat | 0.02 | 0.05 | 1 | 0 | 0 | 0 |
| fipronil | fat | 0.01 | 0.02 | 1 | 0 | 0 | 0 |
| flonicamid  | fat | 0.01 | 0.02 | 1 | 0 | 0 | 0 |
| flubendiamide | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| flumethrin | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| flupyradifurone | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| imidacloprid | fat | 0.01 | 0.02 | 1 | 0 | 0 | 0 |
| indoxacarb | fat | 0.02 | 0.01 | 1 | 0 | 0 | 0 |
| malathion (maldison) | fat | 0.01 | 1 | 1 | 0 | 0 | 0 |
| metaflumizone | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| methidathion | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| methoxychlor | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| mevinphos | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| omethoate | fat | 0.02 | 0.05 | 1 | 0 | 0 | 0 |
| parathion-methyl | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| permethrin (sum of isomers) | fat | 0.02 | 0.1 | 1 | 0 | 0 | 0 |
| phosmet | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| pirimiphos-methyl | fat | 0.02 | 0.05 | 1 | 0 | 0 | 0 |
| prothiofos | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| pyraclofos | fat | 0.02 | not set | 1 | 0 | 0 | 0 |
| spinetoram | fat | 0.005 | 0.01 | 1 | 0 | 0 | 0 |
| spinosad | fat | 0.005 | 0.5 | 1 | 1 | 0 | 0 |
| spirotetramat | fat | 0.01 | 0.02 | 1 | 0 | 0 | 0 |
| sulfoxaflor | fat | 0.01 | 0.01 | 1 | 0 | 0 | 0 |
| tau-fluvalinate | fat | 0.01 | not set | 1 | 0 | 0 | 0 |
| temephos | fat | 0.02 | not set | 1 | 0 | 0 | 0 |

**Table 7: Metals**

| **Chemical** | **Matrix** | **LOR (mg/kg)** | **MRL(mg/kg)** | **Number of samples tested** | **>LOR to ≤½MRL** | **>½MRL to ≤MRL** | **>MRL** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| antimony | liver | 0.01 | no limit | 2 | 0 | 0 | 0 |
| arsenic (total) | liver | 0.05 | no limit | 2 | 0 | 0 | 0 |
| cadmium | liver | 0.01 | no limit | 2 | 2 | 0 | 0 |
| lead | liver | 0.01 | 0.5 | 2 | 1 | 1 | 0 |
| mercury (total) | liver | 0.01 | no limit | 2 | 0 | 0 | 0 |

**Table 8: Other Veterinary Drugs**

| **Chemical** | **Matrix** | **LOR (mg/kg)** | **MRL(mg/kg)** | **Number of samples tested** | **>LOR to ≤½MRL** | **>½MRL to ≤MRL** | **>MRL** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| cimaterol | liver | 0.0003 | not set | 1 | 0 | 0 | 0 |
| clenbuterol | liver | 0.0003 | not set | 1 | 0 | 0 | 0 |
| mabuterol | liver | 0.0003 | not set | 1 | 0 | 0 | 0 |
| ractopamine | liver | 0.0003 | not set | 1 | 0 | 0 | 0 |
| salbutamol | liver | 0.001 | not set | 1 | 0 | 0 | 0 |
| zilpaterol | liver | 0.0003 | not set | 1 | 0 | 0 | 0 |