# Horse residue testing annual datasets 2017–18

National Residue Survey, Department of Agriculture and Water Resources

## 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) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| abamectin | fat | 0.005 | not set | 10 | 0 | 0 | 0 |
| albendazole | liver | 0.001 | not set | 20 | 0 | 0 | 0 |
| clorsulon | liver | 0.08 | not set | 20 | 0 | 0 | 0 |
| derquantel | fat | 0.005 | not set | 10 | 0 | 0 | 0 |
| doramectin | fat | 0.005 | not set | 10 | 0 | 0 | 0 |
| emamectin | fat | 0.005 | 0.01 | 10 | 0 | 0 | 0 |
| eprinomectin B1a | fat | 0.005 | not set | 10 | 0 | 0 | 0 |
| fenbendazole | liver | 0.001 | not set | 20 | 0 | 0 | 0 |
| fenbendazole sulfone | liver | 0.001 | not set | 20 | 0 | 0 | 0 |
| ivermectin H2B1a | fat | 0.005 | 0.01 | 10 | 0 | 0 | 0 |
| mebendazole | liver | 0.005 | 0.02 | 20 | 0 | 0 | 0 |
| mebendazole, 5-hydroxy- | liver | 0.005 | not set | 20 | 0 | 0 | 0 |
| milbemectin | fat | 0.01 | 0.002 | 10 | 0 | 0 | 0 |
| monepantel sulphone | fat | 0.005 | not set | 10 | 0 | 0 | 0 |
| moxidectin | fat | 0.005 | not set | 10 | 0 | 0 | 1 |
| nitroxynil | liver | 0.012 | not set | 20 | 0 | 0 | 0 |
| oxfendazole (fenbendazole sulfoxide) | liver | 0.001 | 3 | 20 | 0 | 0 | 0 |
| oxibendazole | liver | 0.001 | not set | 20 | 0 | 0 | 0 |
| praziquantel | fat | 0.005 | not set | 10 | 0 | 0 | 0 |
| thiabendazole | liver | 0.006 | 0.2 | 20 | 0 | 0 | 0 |

Table 2 Antibiotics

| Chemical | Matrix | LOR (mg/kg) | MRL (mg/kg) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| AHD | retina x 2 | 0.002 | not defined | 10 | 0 | – | – |
| amoxicillin | kidney | 0.01 | 0.01 | 40 | 0 | 0 | 0 |
| AMOZ | retina x 2 | 0.002 | not defined | 10 | 0 | – | – |
| ampicillin | kidney | 0.01 | 0.01 | 40 | 0 | 0 | 0 |
| AOZ | retina x 2 | 0.002 | not defined | 10 | 0 | – | – |
| apramycin | kidney | 0.5 | 2 | 40 | 0 | 0 | 0 |
| avilamycin | kidney | 0.1 | not set | 40 | 0 | 0 | 0 |
| benzyl G penicillin | kidney | 0.01 | 0.06 | 40 | 0 | 0 | 0 |
| ceftiofur (desfuroylceftiofur) | kidney | 0.2 | not set | 40 | 0 | 0 | 0 |
| cefuroxime | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| cephalonium | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| chloramphenicol | muscle | 0.00027 | not set | 10 | 0 | 0 | 0 |
| chlortetracycline | kidney | 0.01 | not set | 40 | 0 | 0 | 0 |
| ciprofloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| cloxacillin | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| danofloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| difloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| dihydrostreptomycin | kidney | 0.1 | 0.3 | 40 | 0 | 0 | 0 |
| dimetridazole | muscle | 0.000035 | not set | 10 | 0 | 0 | 0 |
| doxycycline | kidney | 0.01 | not set | 40 | 0 | 0 | 0 |
| enrofloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| erythromycin | kidney | 0.1 | 0.3 | 40 | 0 | 0 | 0 |
| florfenicol | muscle | 0.003 | not set | 10 | 0 | 0 | 0 |
| flumequine | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| gatifloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| gentamycin | kidney | 0.1 | not set | 40 | 0 | 0 | 0 |
| levofloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| lincomycin | kidney | 0.1 | 0.2 | 40 | 0 | 0 | 0 |
| lomefloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| marbofloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| metronidazole | muscle | 0.000046 | not set | 10 | 0 | 0 | 0 |
| moxifloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| nalidixic acid | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| neomycin | kidney | 0.1 | not set | 40 | 0 | 0 | 0 |
| norfloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| oleandomycin | kidney | 0.2 | 0.1 | 40 | 0 | 0 | 0 |
| orbifloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| oxolinic acid | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| oxytetracycline | kidney | 0.01 | not set | 40 | 0 | 0 | 1 |
| ronidazole | muscle | 0.000055 | not set | 10 | 0 | 0 | 0 |
| sarafloxacin | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| SEM | retina x 2 | 0.002 | not defined | 10 | 0 | – | – |
| streptomycin | kidney | 0.1 | 0.3 | 40 | 0 | 0 | 0 |
| sulfachloropyridazine | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| sulfadiazine | kidney | 0.05 | 0.1 | 40 | 0 | 0 | 0 |
| sulfadimethoxine | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| sulfadimidine (sulfamethazine) | kidney | 0.05 | 0.1 | 40 | 0 | 0 | 0 |
| sulfadoxine | kidney | 0.05 | 0.1 | 40 | 0 | 0 | 0 |
| sulfafurazole | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| sulfamerazine | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| sulfamethoxazole | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| sulfamethoxydiazine (sulfameter) | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| sulfamethoxypyridazine | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| sulfapyridine | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| sulfaquinoxaline | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| sulfathiazole | kidney | 0.05 | not set | 40 | 0 | 0 | 0 |
| sulfatroxazole | kidney | 0.05 | 0.1 | 40 | 0 | 0 | 0 |
| tetracycline | kidney | 0.01 | not set | 40 | 0 | 0 | 0 |
| thiamphenicol | muscle | 0.0029 | not set | 10 | 0 | 0 | 0 |
| tilmicosin | kidney | 0.2 | not set | 40 | 0 | 0 | 0 |
| trimethoprim | kidney | 0.05 | 0.05 | 40 | 0 | 0 | 0 |
| tulathromycin | kidney | 0.3 | not set | 40 | 0 | 0 | 0 |
| tylosin | kidney | 0.1 | not set | 40 | 0 | 0 | 0 |
| virginiamycin | kidney | 0.2 | not set | 40 | 0 | 0 | 0 |

Table 3 Contaminants

| Chemical | Matrix | LOR (mg/kg) | MRL (mg/kg) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| aldrin and dieldrin (HHDN+HEOD) | fat | 0.02 | 0.2 | 20 | 0 | 0 | 0 |
| arochlor 1254 | fat | 0.03 | 0.2 | 20 | 0 | 0 | 0 |
| arochlor 1260 | fat | 0.03 | 0.2 | 20 | 0 | 0 | 0 |
| chlordane | fat | 0.02 | 0.2 | 20 | 0 | 0 | 0 |
| DDT | fat | 0.05 | 5 | 20 | 0 | 0 | 0 |
| endosulfan | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| endrin | fat | 0.01 | not set | 20 | 0 | 0 | 0 |
| HCB (hexachlorobenzene) | fat | 0.02 | 1 | 20 | 0 | 0 | 0 |
| HCH (BHC) | fat | 0.02 | 0.3 | 20 | 0 | 0 | 0 |
| heptachlor | fat | 0.02 | 0.2 | 20 | 0 | 0 | 0 |
| lindane (gamma-HCH) | fat | 0.01 | 2 | 20 | 0 | 0 | 0 |
| mirex | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| pentachlorobenzene | fat | 0.02 | not set | 20 | 0 | 0 | 0 |

Table 4 Fungicides

| Chemical | Matrix | LOR (mg/kg) | MRL (mg/kg) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| bixafen | fat | 0.02 | 0.2 | 9 | 0 | 0 | 0 |
| boscalid | fat | 0.01 | 0.3 | 20 | 0 | 0 | 0 |
| carbendazim | fat | 0.01 | 0.2 | 20 | 0 | 0 | 0 |
| cyproconazole | fat | 0.02 | 0.03 | 20 | 0 | 0 | 0 |
| fluquinconazole | fat | 0.01 | 0.5 | 20 | 0 | 0 | 0 |
| flutriafol | fat | 0.02 | 0.05 | 20 | 0 | 0 | 0 |
| fluxapyroxad | fat | 0.01 | 0.05 | 20 | 0 | 0 | 0 |
| procymidone | fat | 0.02 | 0.2 | 20 | 0 | 0 | 0 |
| propiconazole | fat | 0.02 | 0.1 | 20 | 0 | 0 | 0 |
| prothioconazole | fat | 0.02 | 0.02 | 20 | 0 | 0 | 0 |
| quintozene | fat | 0.02 | not set | 20 | 0 | 0 | 0 |

Table 5 Herbicides

| Chemical | Matrix | LOR (mg/kg) | MRL (mg/kg) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| ethofumesate | fat | 0.02 | 0.5 | 20 | 0 | 0 | 0 |
| metazachlor | fat | 0.01 | not set | 9 | 0 | 0 | 0 |
| metolachlor | fat | 0.02 | 0.05 | 20 | 0 | 0 | 0 |
| propachlor | fat | 0.02 | 0.02 | 20 | 0 | 0 | 0 |
| pyrasulfotole | fat | 0.01 | 0.01 | 20 | 0 | 0 | 0 |

Table 6 Hormones

| Chemical | Matrix | LOR (mg/kg) | MRL (mg/kg) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 16-hydroxystanozolol | urine | 0.001 | not defined | 10 | 0 | – | – |
| betamethasone | liver | 0.001 | not set | 10 | 0 | 0 | 0 |
| boldenone 17-alpha | urine | 0.001 | not defined | 10 | 1 | – | – |
| boldenone 17-beta | urine | 0.001 | not defined | 10 | 1 | – | – |
| dexamethasone | liver | 0.001 | 0.1 | 10 | 0 | 0 | 0 |
| dienoestrol | liver | 0.0002 | not set | 10 | 0 | 0 | 0 |
| diethylstilboestrol | liver | 0.0002 | not set | 10 | 0 | 0 | 0 |
| flumethasone | liver | 0.001 | not set | 10 | 0 | 0 | 0 |
| hexoestrol | liver | 0.0002 | not set | 10 | 0 | 0 | 0 |
| methandriol | urine | 0.005 | not defined | 10 | 0 | – | – |
| methylprednisolone | liver | 0.001 | not set | 10 | 0 | 0 | 0 |
| nortestosterone 17-alpha | urine | 0.001 | not defined | 10 | 1 | – | – |
| nortestosterone 17-beta | urine | 0.001 | not defined | 10 | 2 | – | – |
| stanozolol | urine | 0.001 | not defined | 10 | 0 | – | – |
| trenbolone | liver | 0.0005 | not set | 10 | 0 | 0 | 0 |
| triamcinolone | liver | 0.001 | not set | 10 | 0 | 0 | 0 |
| triamcinolone acetonide | liver | 0.001 | not set | 10 | 0 | 0 | 0 |
| zeranol (alpha-zearalanol) | liver | 0.002 | not set | 10 | 0 | 0 | 0 |

Table 7 Insecticides

| Chemical | Matrix | LOR (mg/kg) | MRL (mg/kg) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| bifenthrin | fat | 0.02 | 2 | 20 | 0 | 0 | 0 |
| bioresmethrin | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| carbaryl | fat | 0.01 | 0.07 | 20 | 0 | 0 | 0 |
| chlorantraniliprole | fat | 0.01 | 0.02 | 20 | 0 | 0 | 0 |
| chlorfenapyr | fat | 0.02 | 0.05 | 20 | 0 | 0 | 0 |
| chlorfenvinphos (sum of isomers) | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| chlorpyrifos | fat | 0.02 | 0.5 | 20 | 0 | 0 | 0 |
| chlorpyrifos-methyl | fat | 0.02 | 0.05 | 20 | 0 | 0 | 0 |
| coumaphos | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| cyfluthrin (sum of isomers) | fat | 0.02 | 0.5 | 20 | 0 | 0 | 0 |
| cyhalothrin (sum of isomers) | fat | 0.02 | 0.5 | 20 | 0 | 0 | 0 |
| cypermethrin (sum of isomers) | fat | 0.02 | 0.05 | 20 | 0 | 0 | 0 |
| deltamethrin | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| diafenthiuron | fat | 0.01 | 0.02 | 20 | 0 | 0 | 0 |
| diazinon | fat | 0.02 | 0.7 | 20 | 0 | 0 | 0 |
| dichlorvos | fat | 0.02 | 0.01 | 20 | 0 | 0 | 0 |
| dicofol | fat | 0.01 | not set | 20 | 0 | 0 | 0 |
| dimethoate | fat | 0.02 | 0.05 | 20 | 0 | 0 | 0 |
| dinotefuran | fat | 0.03 | 0.02 | 9 | 0 | 0 | 0 |
| esfenvalerate | fat | 0.02 | 1 | 20 | 0 | 0 | 0 |
| ethion | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| famphur | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| famphur oxygen-analogue | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| fenitrothion | fat | 0.02 | 0.05 | 20 | 0 | 0 | 0 |
| fenthion | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| fenvalerate (sum of isomers) | fat | 0.02 | 1 | 20 | 1 | 0 | 0 |
| fipronil | fat | 0.02 | 0.1 | 20 | 0 | 0 | 0 |
| flubendiamide | fat | 0.01 | 0.05 | 20 | 0 | 0 | 0 |
| flumethrin | fat | 0.02 | 0.1 | 20 | 0 | 0 | 0 |
| imidacloprid | fat | 0.01 | 0.05 | 20 | 0 | 0 | 0 |
| indoxacarb | fat | 0.02 | 1 | 20 | 0 | 0 | 0 |
| malathion (maldison) | fat | 0.01 | 1 | 20 | 0 | 0 | 0 |
| methidathion | fat | 0.02 | 0.5 | 20 | 0 | 0 | 0 |
| methoxychlor | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| mevinphos | fat | 0.01 | 0.05 | 20 | 0 | 0 | 0 |
| omethoate | fat | 0.02 | 0.05 | 20 | 0 | 0 | 0 |
| parathion-methyl | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| permethrin (sum of isomers) | fat | 0.02 | 1 | 20 | 0 | 0 | 0 |
| phosmet | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| pirimiphos-methyl | fat | 0.02 | 0.05 | 20 | 0 | 0 | 0 |
| prothiofos | fat | 0.01 | not set | 20 | 0 | 0 | 0 |
| pyraclofos | fat | 0.02 | not set | 20 | 0 | 0 | 0 |
| spinetoram | fat | 0.005 | 2 | 10 | 0 | 0 | 0 |
| spinosad | fat | 0.005 | 2 | 10 | 0 | 0 | 0 |
| spirotetramat | fat | 0.02 | 0.02 | 20 | 0 | 0 | 0 |
| sulfoxaflor | fat | 0.01 | 0.2 | 20 | 0 | 0 | 0 |
| tau-fluvalinate | fat | 0.01 | not set | 20 | 0 | 0 | 0 |
| temephos | fat | 0.02 | not set | 20 | 0 | 0 | 0 |

Table 8 Metals

| Chemical | Matrix | LOR (mg/kg) | MRL (mg/kg) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| antimony | muscle | 0.01 | no limit | 20 | 0 | 0 | 0 |
| arsenic (total) | muscle | 0.05 | no limit | 20 | 0 | 0 | 0 |
| cadmium | muscle | 0.01 | no limit | 20 | 13 | 0 | 0 |
| lead | muscle | 0.01 | no limit | 20 | 1 | 0 | 0 |
| mercury (total) | muscle | 0.01 | no limit | 20 | 0 | 0 | 0 |

Table 9 Mycotoxins

| Chemical | Matrix | LOR (mg/kg) | MRL (mg/kg) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| taleranol (beta-zearalanol) | liver | 0.002 | no limit | 10 | 0 | 0 | 0 |
| zearalanone | liver | 0.002 | no limit | 10 | 0 | 0 | 0 |
| zearalenol alpha | liver | 0.002 | no limit | 10 | 0 | 0 | 0 |
| zearalenol beta | liver | 0.002 | no limit | 10 | 0 | 0 | 0 |
| zearalenone | liver | 0.002 | no limit | 10 | 0 | 0 | 0 |

Table 10 Other veterinary drugs

| Chemical | Matrix | LOR (mg/kg) | MRL (mg/kg) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| cimaterol | liver | 0.0003 | not set | 5 | 0 | 0 | 0 |
| clenbuterol | liver | 0.0003 | not set | 5 | 0 | 0 | 0 |
| flunixin | kidney | 0.01 | not set | 10 | 0 | 0 | 0 |
| ketoprofen | kidney | 0.01 | not set | 10 | 0 | 0 | 0 |
| mabuterol | liver | 0.0003 | not set | 5 | 0 | 0 | 0 |
| meloxicam | kidney | 0.01 | not set | 10 | 0 | 0 | 0 |
| oxyphenbutazone | kidney | 0.01 | not set | 10 | 0 | 0 | 0 |
| phenylbutazone | kidney | 0.01 | not set | 10 | 0 | 0 | 0 |
| ractopamine | liver | 0.0003 | not set | 5 | 0 | 0 | 0 |
| salbutamol | liver | 0.001 | not set | 5 | 0 | 0 | 0 |
| tolfenamic acid | kidney | 0.005 | not set | 10 | 0 | 0 | 0 |
| zilpaterol | liver | 0.0003 | not set | 5 | 0 | 0 | 0 |

Table 11 Sedatives

| Chemical | Matrix | LOR (mg/kg) | MRL (mg/kg) | No. of samples tested | > LOR to ≤ ½ MRL | > ½ MRL to ≤ MRL | > MRL |
| --- | --- | --- | --- | --- | --- | --- | --- |
| acepromazine | liver | 0.001 | not set | 10 | 0 | 0 | 0 |
| azaperone | liver | 0.001 | not set | 10 | 0 | 0 | 0 |
| carazolol | liver | 0.001 | not set | 10 | 0 | 0 | 0 |
| chlorpromazine | liver | 0.005 | not set | 10 | 0 | 0 | 0 |
| propionylpromazine | liver | 0.001 | not set | 10 | 0 | 0 | 0 |
| xylazine | liver | 0.001 | not set | 10 | 0 | 0 | 0 |