



# Barley 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 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 Fungicides**

| Chemical       | Matrix | LOR<br>(mg/kg) | MRL<br>(mg/kg) | No. of<br>samples<br>tested | > ½ MRL<br>to ≤ MRL | > MRL |
|----------------|--------|----------------|----------------|-----------------------------|---------------------|-------|
| azoxystrobin   | whole  | 0.01           | 0.2            | 1076                        | 0                   | 0     |
| benalaxyl      | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| bitertanol     | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| boscalid       | whole  | 0.01           | 0.5            | 1076                        | 0                   | 0     |
| bupirimate     | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| captafol       | whole  | 0.02           | not set        | 1076                        | –                   | 0     |
| captan         | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| carbendazim    | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| chlorothalonil | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| cyproconazole  | whole  | 0.01           | 0.02           | 1076                        | 0                   | 0     |
| cyprodinil     | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| difenoconazole | whole  | 0.01           | 0.01           | 1076                        | 0                   | 3     |

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| Chemical                                    | Matrix | LOR<br>(mg/kg) | MRL<br>(mg/kg) | No. of<br>samples<br>tested | > ½ MRL<br>to ≤ MRL | > MRL |
|---|--------|----------------|----------------|-----------------------------|---------------------|-------|
| dimethomorph<br>(sum of E and Z<br>isomers) | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| dithianon                                   | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| dodine                                      | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| epoxiconazole                               | whole  | 0.01           | 0.05           | 1076                        | 0                   | 0     |
| etridiazole                                 | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| fenarimol                                   | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| fenhexamid                                  | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| fluazinam                                   | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| fludioxonil                                 | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| fluquinconazole                             | whole  | 0.01           | 0.02           | 1076                        | 0                   | 0     |
| flusilazole                                 | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| flutriafol                                  | whole  | 0.01           | 0.2            | 1076                        | 0                   | 0     |
| fluxapyroxad                                | whole  | 0.01           | 0.2            | 1076                        | 0                   | 0     |
| hexaconazole                                | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| imazalil                                    | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| ipconazole                                  | whole  | 0.01           | 0.01           | 1076                        | 0                   | 0     |
| iprodione                                   | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| kresoxim-methyl                             | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| metalaxyl                                   | whole  | 0.01           | 0.01           | 1076                        | 0                   | 0     |
| myclobutanil                                | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| oxadixyl                                    | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| penconazole                                 | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| prochloraz                                  | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| procymidone                                 | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| propiconazole                               | whole  | 0.01           | 0.05           | 1076                        | 0                   | 0     |
| prothioconazole                             | whole  | 0.01           | 0.3            | 1076                        | 0                   | 0     |
| pyraclostrobin                              | whole  | 0.01           | 0.01           | 1076                        | 0                   | 0     |
| pyrimethanil                                | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| quinoxifen                                  | whole  | 0.01           | 0.01           | 1076                        | 0                   | 0     |
| spiroxamine-P                               | whole  | 0.01           | 0.05           | 1076                        | 0                   | 0     |
| tebuconazole                                | whole  | 0.01           | 0.2            | 1076                        | 0                   | 0     |
| thiabendazole-P                             | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| tolclofos methyl                            | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| triadimefon                                 | whole  | 0.01           | 0.5            | 1076                        | 0                   | 0     |
| triadimenol                                 | whole  | 0.01           | 0.01           | 1076                        | 0                   | 0     |
| trifloxystrobin                             | whole  | 0.01           | not set        | 1076                        | –                   | 0     |
| triticonazole                               | whole  | 0.01           | 0.05           | 1076                        | 0                   | 0     |
| vinclozolin                                 | whole  | 0.01           | not set        | 1076                        | –                   | 0     |

**Table 2 Herbicides**

| Chemical                             | Matrix | LOR (mg/kg) | Australian standard (mg/kg) | No. of samples tested | > ½ MRL to ≤ MRL | > MRL |
|--------------------------------------|--------|-------------|-----------------------------|-----------------------|------------------|-------|
| 2,2-DPA (2,2-dichloropropionic acid) | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| 2,4-D                                | whole  | 0.01        | 0.2                         | 1076                  | 0                | 0     |
| amitrole                             | whole  | 0.01        | 0.01                        | 352                   | 0                | 0     |
| atrazine                             | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| bromacil                             | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| bromoxynil                           | whole  | 0.01        | 0.2                         | 1076                  | 0                | 0     |
| carfentrazone-ethyl                  | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| chlorpropham                         | whole  | 0.01        | not set                     | 1076                  | 0                | 0     |
| chlorsulfuron                        | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| chlorthal-dimethyl                   | whole  | 0.01        | not set                     | 1076                  | 0                | 0     |
| clethodim (parent only)              | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| clodinafop-propargyl                 | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| clopyralid                           | whole  | 0.01        | 2                           | 1076                  | 0                | 0     |
| cyanazine                            | whole  | 0.01        | 0.01                        | 1076                  | 0                | 0     |
| dicamba                              | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| dichlobenil                          | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| dichlorprop-P                        | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| diclofop-methyl                      | whole  | 0.01        | 0.1                         | 352                   | 0                | 0     |
| diflufenican                         | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| diquat                               | whole  | 0.01        | 5                           | 352                   | 0                | 0     |
| diuron                               | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| ethofumesate                         | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| fenoxaprop-ethyl                     | whole  | 0.01        | 0.01                        | 352                   | 0                | 0     |
| flamprop-M-methyl                    | whole  | 0.01        | not set                     | 352                   | –                | 0     |
| fluazifop-p-butyl                    | whole  | 0.01        | not set                     | 352                   | –                | 0     |
| flumetsulam                          | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| glufosinate                          | whole  | 0.01        | not set                     | 352                   | –                | 0     |
| glyphosate                           | whole  | 0.01        | 10                          | 352                   | 0                | 0     |
| haloxyfop                            | whole  | 0.01        | not set                     | 352                   | –                | 0     |
| imazamox                             | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| imazapic                             | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| imazapyr                             | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| imazaquin                            | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| imazethapyr                          | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| iodosulfuron-methyl                  | whole  | 0.01        | 0.01                        | 1076                  | 0                | 0     |
| ioxynil                              | whole  | 0.01        | not set                     | 1076                  | 0                | 0     |
| isoxaben                             | whole  | 0.01        | 0.01                        | 1076                  | 0                | 0     |
| linuron                              | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |

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| Chemical             | Matrix | LOR (mg/kg) | Australian standard (mg/kg) | No. of samples tested | > ½ MRL to ≤ MRL | > MRL |
|----------------------|--------|-------------|-----------------------------|-----------------------|------------------|-------|
| MCPA                 | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| methabenzthiazuron   | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| metolachlor          | whole  | 0.01        | 0.02                        | 1076                  | –                | 0     |
| metosulam            | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| metribuzin           | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| metsulfuron-methyl   | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| napropamide          | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| norflurazon          | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| oryzalin             | whole  | 0.01        | 0.01                        | 1076                  | 0                | 0     |
| oxyfluorfen          | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| paraquat             | whole  | 0.01        | 0.05                        | 352                   | 0                | 0     |
| pendimethalin        | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| picloram             | whole  | 0.01        | 0.2                         | 1076                  | 0                | 0     |
| propachlor           | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| propyzamide          | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| quizalofop-ethyl     | whole  | 0.01        | not set                     | 352                   | –                | 0     |
| quizalofop-P-tefuryl | whole  | 0.01        | not set                     | 352                   | –                | 0     |
| saflufenacil         | whole  | 0.01        | 0.2                         | 1076                  | 0                | 0     |
| sethoxydim           | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| simazine             | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| tralkoxydim          | whole  | 0.01        | 0.02                        | 1076                  | –                | 0     |
| triasulfuron         | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| triclopyr            | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| trifluralin          | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |

**Table 3 Insecticides**

| Chemical        | Matrix | LOR (mg/kg) | Australian standard (mg/kg) | No. of samples tested | > ½ MRL to ≤ MRL | > MRL |
|-----------------|--------|-------------|-----------------------------|-----------------------|------------------|-------|
| acephate        | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| abamectin       | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| emamectin       | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| acetamiprid-P   | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| aldicarb        | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| amitraz         | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| azamethiphos    | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| azinphos-methyl | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| bifenazate      | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| bifenthrin      | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| bioresmethrin   | whole  | 0.01        | not set                     | 1076                  | –                | 0     |

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| Chemical                         | Matrix | LOR (mg/kg) | Australian standard (mg/kg) | No. of samples tested | > ½ MRL to ≤ MRL | > MRL |
|----------------------------------|--------|-------------|-----------------------------|-----------------------|------------------|-------|
| buprofezin                       | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| cadusafos                        | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| carbaryl                         | whole  | 0.01        | 15                          | 1076                  | 0                | 0     |
| carbofuran                       | whole  | 0.01        | 0.2                         | 1076                  | 0                | 0     |
| chlorantraniliprole              | whole  | 0.01        | 0.01                        | 1076                  | 0                | 0     |
| chlorfenapyr                     | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| Chlorfenvinphos (sum of isomers) | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| chlorpyrifos                     | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| chlorpyrifos-methyl              | whole  | 0.01        | 10                          | 1076                  | 0                | 0     |
| clofentezine                     | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| clothianidin                     | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| Cyfluthrin (sum of isomers)      | whole  | 0.01        | 2                           | 1076                  | 0                | 0     |
| cyhalothrin (sum of isomers)     | whole  | 0.01        | 0.2                         | 1076                  | 0                | 0     |
| cypermethrin (sum of isomers)    | whole  | 0.01        | 1                           | 1076                  | 0                | 0     |
| deltamethrin                     | whole  | 0.01        | 2                           | 1076                  | 1                | 0     |
| diafenthiuron                    | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| diazinon                         | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| dichlorvos                       | whole  | 0.01        | 0.01                        | 1076                  | 0                | 0     |
| dicofol                          | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| diflubenzuron                    | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| dimethoate                       | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| disulfoton                       | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| esfenvalerate                    | whole  | 0.01        | 2                           | 1076                  | 0                | 0     |
| ethion                           | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| ethoprophos                      | whole  | 0.005       | 0.005                       | 1076                  | 0                | 0     |
| etoxazole                        | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| fenamiphos                       | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| fenbutatin oxide                 | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| fenitrothion                     | whole  | 0.01        | 10                          | 1076                  | 0                | 0     |
| fenoxycarb                       | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| fenpyroximate                    | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| fenthion                         | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| Fenvalerate (sum of isomers)     | whole  | 0.01        | 2                           | 1076                  | 0                | 0     |
| fipronil                         | whole  | 0.002       | not set                     | 1076                  | –                | 0     |
| hexythiazox                      | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| imidacloprid                     | whole  | 0.01        | 0.05                        | 1076                  | 2                | 3     |

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| Chemical                    | Matrix | LOR (mg/kg) | Australian standard (mg/kg) | No. of samples tested | > ½ MRL to ≤ MRL | > MRL |
|-----------------------------|--------|-------------|-----------------------------|-----------------------|------------------|-------|
| indoxacarb                  | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| malathion (maldison)        | whole  | 0.01        | 8                           | 1076                  | 0                | 0     |
| methacrifos                 | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| methamidophos               | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| methidathion                | whole  | 0.01        | 0.01                        | 1076                  | 0                | 0     |
| methiocarb                  | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| methomyl                    | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| methoprene                  | whole  | 0.01        | 2                           | 1076                  | 1                | 0     |
| methoxychlor                | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| methoxyfenozide             | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| mevinphos                   | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| monocrotophos               | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| omethoate                   | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| parathion                   | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| parathion-methyl            | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| Permethrin (sum of isomers) | whole  | 0.01        | 2                           | 1076                  | 0                | 0     |
| phenothrin (sum of isomers) | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| phorate                     | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| phosmet                     | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| piperonyl butoxide          | whole  | 0.01        | 20                          | 1076                  | 0                | 0     |
| pirimicarb                  | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| pirimiphos-methyl           | whole  | 0.01        | 7                           | 1076                  | 0                | 0     |
| profenofos                  | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| propargite                  | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| prothiofos                  | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| pymetrozine                 | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| pyrethrins                  | whole  | 0.01        | 3                           | 1076                  | 0                | 0     |
| pyriproxyfen                | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| spinetoram                  | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| spinosad                    | whole  | 0.01        | 1                           | 1076                  | 2                | 0     |
| spirotetramat               | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| sulfoxaflor                 | whole  | 0.01        | 0.01                        | 1076                  | 0                | 0     |
| tau-fluvalinate             | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| tebufenozide                | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| tebufenpyrad                | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| terbufos                    | whole  | 0.01        | 0.01                        | 1076                  | 0                | 0     |
| tetradifon                  | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| thiacloprid                 | whole  | 0.01        | not set                     | 1076                  | –                | 0     |

| Chemical     | Matrix | LOR (mg/kg) | Australian standard (mg/kg) | No. of samples tested | > ½ MRL to ≤ MRL | > MRL |
|--------------|--------|-------------|-----------------------------|-----------------------|------------------|-------|
| thiamethoxam | whole  | 0.01        | 0.01                        | 1076                  | 0                | 0     |
| thiodicarb   | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| triazofos    | whole  | 0.01        | not set                     | 1076                  | –                | 0     |
| trichlorfon  | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| triflumuron  | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |

**Table 4 Contaminants**

| Chemical                        | Matrix | LOR (mg/kg) | Australian standard (mg/kg) | No. of samples tested | > ½ MRL to ≤ MRL | > MRL |
|---------------------------------|--------|-------------|-----------------------------|-----------------------|------------------|-------|
| aldrin and dieldrin (HHDN+HEOD) | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| chlordane                       | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| DDT                             | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| endosulfan                      | whole  | 0.01        | not set                     | 1076                  | 0                | 0     |
| endrin                          | whole  | 0.01        | not set                     | 1076                  | 0                | 0     |
| HCB (hexachlorobenzene)         | whole  | 0.01        | 0.05                        | 1076                  | 0                | 0     |
| HCH (BHC)                       | whole  | 0.01        | 0.1                         | 1076                  | 0                | 0     |
| heptachlor                      | whole  | 0.01        | 0.02                        | 1076                  | 0                | 0     |
| lindane (gamma-HCH)             | whole  | 0.01        | 0.5                         | 1076                  | 0                | 0     |
| mirex                           | whole  | 0.01        | not set                     | 1076                  | 0                | 0     |