



Apple residue testing annual datasets 2019–20

National Residue Survey, 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 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 (mg/kg)	MRL (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
2-phenylphenol	whole	0.05	not set	243	–	0
azoxystrobin	whole	0.01	not set	243	–	0
benalaxyl	whole	0.01	not set	243	–	0
bitertanol	whole	0.01	not set	243	–	0
boscalid	whole	0.01	2	243	0	0
bupirimate	whole	0.01	1	243	0	0
captafol	whole	0.05	not set	243	–	0
captan	whole	0.05	10	243	0	0
carbendazim	whole	0.01	not set	243	–	0
chlorothalonil	whole	0.01	not set	243	–	0

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Chemical	Matrix	LOR (mg/kg)	MRL (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
cyproconazole	whole	0.01	not set	243	–	0
cyprodinil	whole	0.01	0.05	243	0	0
difenoconazole	whole	0.01	0.3	243	0	0
dimethomorph (sum of E and Z isomers)	whole	0.01	not set	243	–	0
dithianon	whole	0.01	2	243	0	0
dithiocarbamates	whole	0.2	3	243	1	2
dodine	whole	0.01	5	243	0	0
epoxiconazole	whole	0.01	not set	243	–	0
etridiazole	whole	0.01	not set	243	–	0
fenarimol	whole	0.01	not set	243	–	0
fenbuconazole	whole	0.01	not set	243	–	0
fenhexamid	whole	0.01	not set	243	–	0
fluazinam	whole	0.01	0.01	243	0	0
fludioxonil	whole	0.01	5	243	0	0
fluopyram	whole	0.01	1	243	0	0
fluquinconazole	whole	0.01	0.3	243	0	0
flusilazole	whole	0.01	0.2	243	0	0
flutriafol	whole	0.01	0.5	243	0	0
hexaconazole	whole	0.01	0.1	243	0	0
imazalil	whole	0.01	5	243	0	0
iprodione	whole	0.05	3	243	4	1
kresoxim-methyl	whole	0.01	0.1	243	0	0
mandestrobin	whole	0.01	not set	243	–	0
metalaxyl	whole	0.01	0.2	243	0	0
metrafenone	whole	0.01	not set	243	–	0
myclobutanil	whole	0.01	0.5	243	0	0
oxadixyl	whole	0.01	not set	243	–	0
paclobutrazol	whole	0.01	1	243	0	0
penconazole	whole	0.01	0.1	243	0	0
penthiopyrad	whole	0.01	0.5	243	0	0
prochloraz	whole	0.01	not set	243	–	0
procymidone	whole	0.01	1	243	0	0
propiconazole	whole	0.01	not set	243	–	0
prothioconazole	whole	0.05	not set	243	–	0
pyraclostrobin	whole	0.01	1	243	0	0
thiabendazole	whole	0.01	10	243	1	0
tolclofos methyl	whole	0.01	not set	243	–	0
triadimefon	whole	0.01	1	243	0	0
triadimenol	whole	0.01	not set	243	–	0

Chemical	Matrix	LOR (mg/kg)	MRL (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
trifloxystrobin	whole	0.01	0.7	243	0	0
vinclozolin	whole	0.01	not set	243	–	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	0.05	0.1	243	0	0
2,4-D	whole	0.01	not set	243	–	0
atrazine	whole	0.01	not set	243	–	0
bromacil	whole	0.01	not set	243	–	0
bromoxynil	whole	0.01	not set	243	–	0
carfentrazone-ethyl	whole	0.01	0.05	243	0	0
chlorsulfuron	whole	0.01	not set	243	–	0
chlorthal-dimethyl	whole	0.01	not set	243	–	0
clethodim (parent only)	whole	0.01	not set	243	–	0
clodinafop-propargyl	whole	0.01	not set	243	–	0
clopyralid	whole	0.05	not set	243	–	0
cyanazine	whole	0.01	0.02	243	0	0
dicamba	whole	0.01	not set	243	–	0
dichlobenil	whole	0.01	0.1	243	0	0
dichlorprop	whole	0.01	not set	243	–	0
diflufenican	whole	0.01	not set	243	–	0
diuron	whole	0.01	not set	243	–	0
ethofumesate	whole	0.01	not set	243	–	0
flumioxazin	whole	0.02	0.02	243	0	0
iodosulfuron-methyl	whole	0.01	not set	243	–	0
ioxynil	whole	0.01	not set	243	–	0
isoxaben	whole	0.01	0.01	243	0	0
linuron	whole	0.05	not set	243	–	0
MCPA	whole	0.01	not set	243	–	0
methabenzthiazuron	whole	0.01	not set	243	–	0
metolachlor	whole	0.01	not set	243	–	0
metosulam	whole	0.01	not set	243	–	0
metribuzin	whole	0.01	not set	243	–	0
metsulfuron-methyl	whole	0.01	not set	243	–	0
napropamide	whole	0.01	not set	243	–	0
norflurazon	whole	0.01	0.2	243	0	0
oryzalin	whole	0.01	0.1	243	0	0
oxyfluorfen	whole	0.01	0.05	243	0	0

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
pendimethalin	whole	0.01	0.05	243	0	0
picloram	whole	0.01	not set	243	–	0
propachlor	whole	0.01	not set	243	–	0
propyzamide	whole	0.01	not set	243	–	0
quizalofop-ethyl	whole	0.01	not set	243	–	0
quizalofop-P-tefuryl	whole	0.01	not set	243	–	0
saflufenacil	whole	0.01	0.03	243	0	0
sethoxydim	whole	0.01	not set	243	–	0
simazine	whole	0.01	0.1	243	0	0
tralkoxydim	whole	0.01	not set	243	–	0
triasulfuron	whole	0.01	not set	243	–	0
triclopyr	whole	0.01	not set	243	–	0
trifluralin	whole	0.01	0.05	243	0	0

Table 3 Insecticides

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
abamectin	whole	0.01	0.01	243	0	0
acephate	whole	0.05	not set	243	–	0
acetamiprid	whole	0.01	0.2	243	0	0
aldicarb	whole	0.01	not set	243	–	0
amitraz	whole	0.01	not set	243	–	0
azamethiphos	whole	0.01	not set	243	–	0
azinphos-methyl	whole	0.01	1	243	0	0
bifenazate	whole	0.01	2	243	0	0
bifenthrin	whole	0.01	0.05	243	0	1
bioresmethrin	whole	0.01	not set	243	–	0
buprofezin	whole	0.01	not set	243	–	0
cadusafos	whole	0.005	not set	243	–	0
carbaryl	whole	0.01	0.2	243	0	0
carbofuran	whole	0.005	not set	243	–	0
chlorantraniliprole	whole	0.01	0.3	243	2	0
chlorfenapyr	whole	0.01	0.5	243	0	0
chlorfenvinphos (sum of isomers)	whole	0.01	not set	243	–	0
chlorpyrifos	whole	0.01	0.5	243	0	0
chlorpyrifos-methyl	whole	0.01	not set	243	–	0
clofentezine	whole	0.01	0.1	243	0	0
clothianidin	whole	0.01	2	243	0	0
cyantraniliprole	whole	0.01	0.05	243	0	0

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Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
cyfluthrin (sum of isomers)	whole	0.01	not set	243	–	0
cyhalothrin (sum of isomers)	whole	0.01	not set	243	–	0
cypermethrin (sum of isomers)	whole	0.01	1	243	0	0
deltamethrin	whole	0.01	not set	243	–	0
diazinon	whole	0.01	0.5	243	0	0
dichlorvos	whole	0.01	0.1	243	0	0
dicofol	whole	0.01	5	243	0	0
diflubenzuron	whole	0.01	not set	243	–	0
dimethoate	whole	0.01	not set	243	–	0
disulfoton	whole	0.01	not set	243	–	0
emamectin	whole	0.005	not set	243	–	0
esfenvalerate	whole	0.01	not set	243	–	0
ethion	whole	0.01	1	243	0	0
ethoprophos	whole	0.005	not set	243	–	0
etoxazole	whole	0.01	0.2	243	0	0
fenamiphos	whole	0.01	not set	243	–	0
fenbutatin oxide	whole	0.01	3	243	0	0
fenitrothion	whole	0.01	1	243	0	0
fenoxycarb	whole	0.01	2	243	0	0
fenpyroximate	whole	0.01	0.3	243	0	0
fenthion	whole	0.01	not set	243	–	0
fenvalerate (sum of isomers)	whole	0.01	not set	243	–	0
fipronil	whole	0.01	not set	243	–	0
flonicamid	whole	0.01	0.7	243	0	0
hexythiazox	whole	0.01	1	243	0	0
imidacloprid	whole	0.01	0.3	243	0	0
indoxacarb	whole	0.01	2	243	0	0
malathion (maldison)	whole	0.01	2	243	0	0
metaldehyde	whole	0.05	1	243	0	0
methacrifos	whole	0.01	not set	243	–	0
methamidophos	whole	0.01	not set	243	–	0
methidathion	whole	0.01	0.2	243	0	0
methiocarb	whole	0.01	0.1	243	0	0
methomyl	whole	0.01	1	243	0	0
methoprene	whole	0.01	not set	243	–	0
methoxychlor	whole	0.01	not set	243	–	0
methoxyfenozide	whole	0.01	0.5	243	0	0

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
mevinphos	whole	0.01	not set	243	–	0
monocrotophos	whole	0.01	not set	243	–	0
novaluron	whole	0.01	0.3	243	0	0
omethoate	whole	0.01	2	243	0	0
parathion	whole	0.01	not set	243	–	0
parathion-methyl	whole	0.01	not set	243	–	0
phorate	whole	0.01	not set	243	–	0
phosmet	whole	0.01	not set	243	–	0
piperonyl butoxide	whole	0.01	8	243	0	0
pirimicarb	whole	0.01	0.5	243	0	0
pirimiphos-methyl	whole	0.01	not set	243	–	0
profenofos	whole	0.01	not set	243	–	0
propargite	whole	0.01	3	243	4	0
prothiofos	whole	0.01	not set	243	–	0
pymetrozine	whole	0.01	not set	243	–	0
pyridaben	whole	0.02	0.5	88	0	0
pyriproxyfen	whole	0.01	not set	243	–	0
spinetoram	whole	0.01	0.1	243	0	0
spinosad	whole	0.01	0.5	243	0	0
spirotetramat	whole	0.01	0.5	243	0	0
sulfoxaflor	whole	0.01	0.5	243	0	0
tebufenozide	whole	0.01	1	243	0	0
tebufenpyrad	whole	0.01	1	243	0	0
terbufos	whole	0.01	not set	243	–	0
tetradifon	whole	0.01	not set	243	–	0
thiacloprid	whole	0.01	1	243	0	0
thiamethoxam	whole	0.01	not set	243	–	0
thiodicarb	whole	0.01	not set	243	–	0
triazofos	whole	0.01	not set	243	–	0
trichlorfon	whole	0.01	0.1	243	0	0
triflumuron	whole	0.01	not set	243	–	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	0.05	290	0	0
chlordane	whole	0.01	0.02	290	0	0
DDT	whole	0.01	1	290	0	0
endosulfan	whole	0.01	not set	290	–	0

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
endrin	whole	0.01	not set	290	–	0
HCB (hexachlorobenzene)	whole	0.01	not set	290	–	0
HCH (BHC)	whole	0.01	not set	290	–	0
heptachlor	whole	0.01	not set	290	–	0
lindane (gamma-HCH)	whole	0.01	2	290	0	0
mirex	whole	0.01	not set	290	0	0

Table 5 Physiological modifier

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
diphenylamine	whole	0.01	10	290	0	0

Table 6 Metals

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
arsenic (total)	whole	0.05	no limit	179	–	–
cadmium	whole	0.01	no limit	179	–	–
copper	whole	0.05	no limit	179	–	–
lead	whole	0.01	0.1	179	0	0
mercury (total)	whole	0.01	no limit	179	–	–

Table 7 Mycotoxins

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
*patulin	whole	0.01	no limit	24	0	0

The ALARA principle applies to all patulin results for apple juice meaning ‘as low as reasonably acceptable’