



Apple residue testing annual datasets 2020–21

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	271	–	0
azoxystrobin	whole	0.01	not set	271	–	0
benalaxyl	whole	0.01	not set	271	–	0
bitertanol	whole	0.01	not set	271	–	0
boscalid	whole	0.01	2	271	0	0
bupirimate	whole	0.01	1	271	0	0
captafol	whole	0.05	not set	271	–	0
captan	whole	0.05	10	271	0	0
carbendazim	whole	0.01	not set	271	–	0
chlorothalonil	whole	0.01	not set	271	–	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	271	–	0
cyprodinil	whole	0.01	0.05	271	0	0
difenoconazole	whole	0.01	0.3	271	0	0
dimethomorph (sum of E and Z isomers)	whole	0.01	not set	271	–	0
dithianon	whole	0.01	2	271	0	0
dithiocarbamates	whole	0.2	3	271	8	1
dodine	whole	0.01	5	271	0	0
epoxiconazole	whole	0.01	not set	271	–	0
etridiazole	whole	0.01	not set	271	–	0
fenarimol	whole	0.01	not set	271	–	0
fenbuconazole	whole	0.01	not set	271	–	0
fenhexamid	whole	0.01	not set	271	–	0
fluazinam	whole	0.01	0.01	271	0	0
fludioxonil	whole	0.01	5	271	1	0
fluopyram	whole	0.01	1	271	0	0
fluquinconazole	whole	0.01	0.3	271	0	0
flusilazole	whole	0.01	0.2	271	0	0
flutriafol	whole	0.01	0.5	271	0	0
hexaconazole	whole	0.01	0.1	271	0	0
imazalil	whole	0.01	5	271	0	0
iprodione	whole	0.01	3	271	2	8
kresoxim-methyl	whole	0.01	0.1	271	0	0
mandestrobin	whole	0.01	not set	271	–	0
metalaxyl	whole	0.01	0.2	271	0	0
metrafenone	whole	0.01	not set	271	–	0
myclobutanil	whole	0.01	0.5	271	0	0
oxadixyl	whole	0.01	not set	271	–	0
paclobutrazol	whole	0.01	1	271	0	0
penconazole	whole	0.01	0.1	271	0	0
penthiopyrad	whole	0.01	0.5	271	0	0
prochloraz	whole	0.01	not set	271	–	0
procymidone	whole	0.01	not set	271	–	0
propiconazole	whole	0.01	not set	271	–	0
prothioconazole	whole	0.05	not set	271	–	0
pyraclostrobin	whole	0.01	1	271	0	0
pyrimethanil	whole	0.01	15	271	0	0
tebuconazole	whole	0.01	0.01	271	0	0
thiabendazole	whole	0.01	10	271	4	0
tolclofos methyl	whole	0.01	not set	271	–	0

Chemical	Matrix	LOR (mg/kg)	MRL (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
triadimefon	whole	0.01	1	271	0	0
triadimenol	whole	0.01	not set	271	–	0
trifloxystrobin	whole	0.01	0.7	271	0	0
triforine	whole	0.01	1	271	0	0
triticonazole	whole	0.01	not set	271	–	0
vinclozolin	whole	0.01	not set	271	–	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	271	0	0
2,4-D	whole	0.01	0.05	271	0	0
atrazine	whole	0.01	not set	271	–	0
bromacil	whole	0.01	not set	271	–	0
bromoxynil	whole	0.01	not set	271	–	0
carfentrazone-ethyl	whole	0.01	0.05	271	0	0
chlorpropham	whole	0.05	not set	271	–	0
chlorsulfuron	whole	0.01	not set	271	–	0
chlorthal-dimethyl	whole	0.01	not set	271	–	0
clethodim (parent only)	whole	0.01	not set	271	–	0
clodinafop-propargyl	whole	0.01	not set	271	–	0
clopyralid	whole	0.05	not set	271	–	0
cyanazine	whole	0.01	0.02	271	0	0
dicamba	whole	0.01	not set	271	–	0
dichlobenil	whole	0.01	0.1	271	0	0
dichlorprop	whole	0.01	not set	271	–	0
diflufenican	whole	0.01	not set	271	–	0
diuron	whole	0.01	not set	271	–	0
ethofumesate	whole	0.01	not set	271	–	0
fenoxaprop-ethyl	whole	0.01	not set	104	–	0
flumioxazin	whole	0.02	0.02	271	0	0
iodosulfuron-methyl	whole	0.01	not set	271	–	0
ioxynil	whole	0.01	not set	271	–	0
isoxaben	whole	0.01	0.01	271	0	0
linuron	whole	0.05	not set	271	–	0
MCPA	whole	0.01	not set	271	–	0
methabenzthiazuron	whole	0.01	not set	271	–	0
metolachlor	whole	0.01	not set	271	–	0
metosulam	whole	0.01	not set	271	–	0

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
metribuzin	whole	0.01	not set	271	–	0
metsulfuron-methyl	whole	0.01	not set	271	–	0
napropamide	whole	0.01	not set	271	–	0
norflurazon	whole	0.01	0.2	271	0	0
oryzalin	whole	0.01	0.1	271	0	0
oxyfluorfen	whole	0.01	0.05	271	0	0
pendimethalin	whole	0.01	0.05	271	0	0
picloram	whole	0.01	not set	271	–	0
propachlor	whole	0.01	not set	271	–	0
propyzamide	whole	0.01	not set	271	–	0
quizalofop-ethyl	whole	0.01	not set	271	–	0
quizalofop-P-tefuryl	whole	0.01	not set	271	–	0
saflufenacil	whole	0.01	0.03	271	0	0
sethoxydim	whole	0.01	not set	271	–	0
simazine	whole	0.01	0.1	271	0	0
tralkoxydim	whole	0.01	not set	271	–	0
triasulfuron	whole	0.01	not set	271	–	0
triclopyr	whole	0.01	not set	271	–	0
trifluralin	whole	0.01	0.05	271	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	0.05	not set	271	–	0
abamectin	whole	0.01	0.01	271	0	0
emamectin	whole	0.005	not set	271	–	0
acetamiprid	whole	0.01	0.2	271	0	0
aldicarb	whole	0.01	not set	271	–	0
amitraz	whole	0.01	not set	271	–	0
azamethiphos	whole	0.01	not set	271	–	0
azinphos-methyl	whole	0.01	1	271	0	0
bifenazate	whole	0.01	2	271	0	0
bifenthrin	whole	0.01	0.05	271	1	0
bioresmethrin	whole	0.01	not set	271	–	0
buprofezin	whole	0.01	0.1	271	0	0
cadusafos	whole	0.005	not set	271	–	0
carbaryl	whole	0.01	0.2	271	0	0
carbofuran	whole	0.005	not set	271	–	0
chlorantraniliprole	whole	0.01	0.3	271	0	0

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
chlorfenapyr	whole	0.01	0.5	271	0	0
chlorfenvinphos (sum of isomers)	whole	0.01	not set	271	–	0
chlorpyrifos	whole	0.005	0.5	271	0	0
chlorpyrifos-methyl	whole	0.005	not set	271	–	0
clofentezine	whole	0.01	0.1	271	0	0
clothianidin	whole	0.01	2	271	0	0
cyantraniliprole	whole	0.01	0.05	271	0	0
cyfluthrin (sum of isomers)	whole	0.01	not set	271	–	0
cyhalothrin (sum of isomers)	whole	0.01	not set	271	–	0
cypermethrin (sum of isomers)	whole	0.01	1	271	0	0
deltamethrin	whole	0.01	not set	271	–	0
diazinon	whole	0.01	0.5	271	0	0
dichlorvos	whole	0.01	0.1	271	0	0
dicofol	whole	0.01	5	271	0	0
diflubenzuron	whole	0.01	not set	271	–	0
dimethoate	whole	0.01	not set	271	–	1
disulfoton	whole	0.01	not set	271	–	0
esfenvalerate	whole	0.01	not set	69	–	0
ethion	whole	0.01	1	271	0	0
ethoprophos	whole	0.005	not set	271	–	0
etoxazole	whole	0.01	0.2	271	0	0
fenamiphos	whole	0.01	not set	271	–	0
fenbutatin oxide	whole	0.01	3	271	0	0
fenitrothion	whole	0.01	1	271	0	0
fenoxycarb	whole	0.01	2	271	0	0
fenpyroximate	whole	0.01	0.3	271	0	0
fenthion	whole	0.01	not set	271	–	0
fenvalerate (sum of isomers)	whole	0.01	not set	271	–	0
fipronil	whole	0.01	not set	271	–	0
flonicamid	whole	0.01	0.7	271	0	0
hexythiazox	whole	0.01	1	271	0	0
imidacloprid	whole	0.01	0.3	271	0	0
indoxacarb	whole	0.01	2	271	0	0
malathion (maldison)	whole	0.01	2	271	0	0
metaldehyde	whole	0.05	1	271	0	0
methacrifos	whole	0.01	not set	271	–	0

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
methamidophos	whole	0.01	not set	271	–	0
methidathion	whole	0.01	not set	271	–	0
methiocarb	whole	0.01	0.1	271	0	0
methomyl	whole	0.01	1	271	0	0
methoprene	whole	0.01	not set	271	–	0
methoxychlor	whole	0.01	not set	271	–	0
methoxyfenozide	whole	0.01	0.5	271	0	0
mevinphos	whole	0.01	not set	271	–	0
monocrotophos	whole	0.01	not set	271	–	0
novaluron	whole	0.01	0.3	271	0	0
omethoate	whole	0.01	2	271	0	0
parathion	whole	0.01	not set	271	–	0
parathion-methyl	whole	0.01	not set	271	–	0
permethrin (sum of isomers)	whole	0.01	not set	271	–	0
phenothrin (sum of isomers)	whole	0.01	not set	271	–	0
phorate	whole	0.01	not set	271	–	0
phosmet	whole	0.01	not set	271	–	0
piperonyl butoxide	whole	0.01	8	271	0	0
pirimicarb	whole	0.01	0.5	271	1	0
pirimiphos-methyl	whole	0.01	not set	271	–	0
profenofos	whole	0.01	not set	271	–	0
propargite	whole	0.01	3	271	5	0
prothiofos	whole	0.01	not set	271	–	0
pymetrozine	whole	0.01	not set	271	–	0
pyrethrins	whole	0.05	1	271	0	0
pyridaben	whole	0.02	0.5	271	0	0
pyriproxyfen	whole	0.01	not set	271	–	0
spinetoram	whole	0.01	0.1	271	0	0
spinosad	whole	0.01	0.5	271	0	0
spirotetramat	whole	0.01	0.5	271	0	0
sulfoxaflor	whole	0.01	0.5	271	0	0
tau-fluvalinate	whole	0.01	0.1	271	0	0
tebufenozide	whole	0.01	1	271	0	0
tebufenpyrad	whole	0.01	1	271	0	0
terbufos	whole	0.01	not set	271	–	0
tetradifon	whole	0.01	not set	271	–	0
thiacloprid	whole	0.01	1	271	0	0
thiamethoxam	whole	0.01	not set	271	–	0

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
thiodicarb	whole	0.01	not set	271	–	0
triazofos	whole	0.01	not set	271	–	0
trichlorfon	whole	0.01	0.1	271	0	0
triflumuron	whole	0.01	not set	271	–	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	271	0	0
chlordane	whole	0.01	0.02	271	0	0
DDT	whole	0.01	1	271	0	0
endosulfan	whole	0.01	not set	271	–	0
endrin	whole	0.01	not set	271	–	0
HCB (hexachlorobenzene)	whole	0.01	not set	271	–	0
HCH (BHC)	whole	0.01	not set	271	–	0
heptachlor	whole	0.01	not set	271	–	0
lindane (gamma-HCH)	whole	0.01	2	271	0	0
mirex	whole	0.01	not set	271	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	271	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	171	0	0
cadmium	whole	0.01	no limit	171	0	0
copper	whole	0.05	no limit	171	0	0
lead	whole	0.01	0.1	171	0	0
mercury (total)	whole	0.01	no limit	171	0	0

Table 7 Mycotoxins

Chemical	Matrix	LOR (mg/kg)	Australian standard (mg/kg)	No. of samples tested	> ½ MRL to ≤ MRL	> MRL
*patulin	juice	0.01	no limit	52	0	0

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