



Australian Government

Department of Agriculture
and Water Resources

National Residue Survey 2015–16

Apples and pears



The National Residue Survey (NRS) is an essential part of Australia's system for monitoring the levels of, and associated risks from, pesticides and veterinary medicine residues in Australian food products.

Residue monitoring programmes run by the NRS are vital in facilitating and encouraging ongoing access to domestic and export markets. They support Australia's food industry and primary producers who provide quality animal, grain and horticulture products for export.

The apple and pear programme

The apple and pear programme involves the testing of Australian apples and pears for a range of chemical residues and environmental contaminants. The programme has been operating since 1998 and is funded by the NRS component of the statutory levies on apples and pears.

The apple and pear programme covers random residue monitoring which ensures the apple and pear industry can meet quality assurance and food standard requirements for domestic and international markets.

Chemical screen

Chemical screens are developed in consultation with the apple and pear industry and take into account Australian registered chemicals, chemical residue profiles and overseas market

Key points

- Australian apple and pear growers continue to demonstrate a high degree of compliance with Australian standards.
- The compliance rate in 2015–16 was 97.3 per cent.
- National Residue Survey is certified to ISO 9001 Quality Management System.

requirements. Apple and pear samples are screened for a range of different pesticides and contaminants, as outlined in Table 1.

TABLE 1 Chemical screens for the apple and pear programme

Chemical screen	Chemical group	Analytes
Multi-residue pesticide screen	Insecticides	Approximately 92 analytes including abamectin, bifenthrin, carbaryl, chlorpyrifos, fenthion, methiocarb, spinosad, sulfoxaflor
	Fungicides	Approximately 49 analytes including boscalid, captan, iprodione, tebuconazole, thiabendazole
	Herbicides	Approximately 45 analytes including 2,4-D, bromacil, propachlor, simazine
	Organochlorines	Approximately 9 analytes including aldrien and dieldrin, chlordane, DDT
	Scald Inhibitor	Diphenylamine

Sample collection

Approximately 350 to 400 apple and pear samples are collected each year in accordance with NRS procedures by quality assurance managers or approved third-party persons at packing sheds or wholesale markets. The origin and number of samples collected is proportional to the level of production in each state.

Samples are randomly selected from participating producers with the aim to establish a nation-wide spread of samples covering as many producers as is practicable each year. Once collected the samples are freighted directly to the contract laboratory for analysis.

Results

In 2015–16 a total of 282 apple and 94 pear samples were collected and analysed and the results were compared with the relevant Australian standards. The overall compliance rate in this period was 97.9 per cent for apples and 95.7 per cent for pears.

Over the past 10 years the Australian apple and pear industry has shown a high degree of compliance with Australian standards as shown in Table 2. This demonstrates that the Australian apple and pear industry use in-crop and post-harvest agricultural chemicals in accordance with good agricultural practice, which assures international markets of the excellent residue and contaminant status of Australian apples and pears.

TABLE 2 Overall compliance rates for the apple and pear programme over the past 10 years

Year	Apple programme		Pear programme	
	Samples collected	Compliance rates (%)	Samples collected	Compliance rates (%)
2006–07	455	98	91	98.9
2007–08	469	99.6	141	100
2008–09	471	100	136	100
2009–10	479	98.1	144	99.3
2010–11	420	100	150	98.7
2011–12	346	98.3	142	97.2
2012–13	299	100	108	98.2
2013–14	314	98.1	110	100
2014–15	294	95.9	92	97.8
2015–16	282	97.9	94	95.7

Laboratory selection and performance

The NRS contracts laboratories to analyse apple and pear samples for chemical residues and environmental contaminants. Laboratories are selected through the Australian Government tendering process on the basis of their proficiency, accreditation against international standards (ISO/IEC 17025) and value for money.

Contracted laboratories are proficiency tested by the NRS to ensure the validity of their analytical results and technical competence. The NRS has been accredited by the National Association of Testing Authorities as a proficiency test provider since July 2005.

International export markets

The NRS maintains a database of international maximum residue limits (MRLs) for countries that are major export markets for Australian animal and plant products.

All apple and pear results are checked for compliance with Australian standards and where appropriate, relevant international MRLs. The database can be accessed at <https://www.edaff.gov.au/NRSMRLEExternal/Public/Disclaimer.aspx>

National Residue Survey

The NRS is an operational unit within the Australian Government Department of Agriculture and Water Resources, and since 1992 has been funded by industries through levies or contracted by direct funding.

NRS programmes demonstrate the long term integrity of Australian food producers in compliance with legislation, chemical use guidelines and international standards. They comply with an ISO 9001:2008 quality management system and form part of a national pesticide and veterinary medicine residue management framework.

These programmes assist primary industries to identify potential residue issues; such as compliance with international standards, good agricultural practice, and can indicate where follow-up action is needed to maintain Australia's reputation as a supplier of clean produce.



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