



Australian Government

**Department of Agriculture
and Water Resources**

National Residue Survey 2014–15

Apple and Pear



The Apple and Pear Programme

The Apple and Pear Programme involves the testing of Australian apple and pears for a range of chemical residues and environmental contaminants. The programme, which has been operating since 1998, is funded by the National Residue Survey (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 certification requirements for domestic and international markets.

Sample collection

Approximately 350 to 450 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 nationwide spread of samples covering as many producers as is practicable each year. Once collected, the samples are freighted overnight directly to the contract laboratory for analysis.

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

Key points

- Australian apple and pear growers continue to demonstrate a high degree of compliance with Australian Standards.
- Excellent industry participation and engagement for over 10 years.
- National Residue Survey is certified to ISO 9001 Quality Management System.

TABLE 1 Chemical screen 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 |

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 17025:2005) 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 relevant international MRLs. The database can be accessed at edaff.gov.au/NRSMRLEExternal/Public/Disclaimer.aspx.

Results

In 2014-15, a total of 294 apple and 92 pear samples were collected and analysed, and the results were compared with the relevant Australian Standards. The overall compliance rate in this period was 98.6 per cent for apples and 97.8 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 (%) |
| 2005–06 | 250 | 100 | 68 | 100 |
| 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 | 98.6 | 92 | 97.8 |

The National Residue Survey

The NRS facilitates residue monitoring in animal and plant commodities to manage the risk of chemical residues and environmental contaminants in Australian food products. In doing so, NRS programmes support Australia's food industry and primary producers by confirming Australia's status as a producer of clean food and facilitating access to domestic and export markets.

The NRS is an operational unit within the Department of Agriculture and Water Resources, funded by Australia's primary industries through levies or through contracted direct funding. Exporting animal industries, the grains industry and various horticultural industries participate in NRS residue monitoring programmes.

All NRS programmes 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 identify potential residue problems including failure to comply with good agricultural practices, and can indicate where follow-up action is needed to maintain Australia's reputation as a supplier of clean produce.



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