



National Residue Survey 2022–23

Annual Summary



Image courtesy of Sheep Producers Australia

The National Residue Survey (NRS) operates within the Australian Government Department of Agriculture, Fisheries and Forestry, and since 1992 has been funded by industries through levies and direct contracts.

The NRS is an essential part of Australia's pesticide and veterinary medicine residue management framework providing verification of good agricultural and seafood practice in support of chemical control-of-use legislation and guidelines.

NRS residue monitoring programs monitor the levels of, and associated risks from, pesticides and veterinary medicine residues and contaminants in Australian food products. The programs help to facilitate and encourage ongoing access to domestic and export markets. The NRS supports Australia's primary producers and food processors who provide quality animal, grain and horticulture products which meet both Australian and relevant international standards.

NRS programs overview

NRS programs take into account importing country requirements and are developed in consultation with participating industries and the department. NRS programs cover a range of commodities:

- meat: cattle, sheep, pig, chicken, goat, horse, kangaroo, wild boar, poultry (duck, turkey, spatchcock, quail), deer, camel, buffalo
- hen eggs
- honey
- aquaculture and wild-caught
- cereal grains: wheat, wheat durum, barley, oat, maize, sorghum, triticale, millet and rye
- pulses: chickpea, cow pea, pigeon pea, field pea, faba bean, lentil, lupin, navy bean, mung bean, soybean, vetch and adzuki bean
- oilseeds: canola seeds, sunflower seeds, safflower seeds and linseed
- horticulture: pome fruits (apple and pear), almonds and macadamia nuts

Key points

- Australian primary producers continue to demonstrate a high degree of compliance with Australian standards for pesticide and veterinary medicine residues.
- The National Residue Survey has excellent industry participation and engagement spanning a range of animal and plant industries over a number of years.
- The National Residue Survey's quality management system (QMS) is ISO 9001:2015 certified.

The key elements of each program are the selection of the chemicals-commodity combination, sampling rates, program design and sampling procedures. Other NRS supporting activities include the NRS quality management system, the procurement of contract laboratories, monitoring ongoing proficiency of the contracted laboratories, coordinating traceback activities when required, and providing results and reports to program participants.

The programs assist the participating industries by:

- ensuring products satisfy Australian export certification and importing country requirements
- supporting quality assurance initiatives
- enabling domestic meat processing facilities to satisfy the licensing requirement of each state and territory
- providing residue monitoring data to support specific market access requirements
- providing independent, authoritative and technically sound residue data, reports and advice.

Results

In 2022–23, 10,138 samples were collected from animal food products and 7,494 samples were collected from plant products and analysed for a range of pesticide residues, contaminants and microorganisms. The results were compared with Australian standards and where relevant, international standards.

A summary of animal and plant products’ compliance with Australian standards for 2022-23 is provided in Table 1 and Table 2 respectively. The results highlight a high degree of compliance with Australian standards and help maintain the reputation and integrity of Australian produce in domestic and international markets.

The yearly summary datasets for NRS programs are located on the department’s website agriculture.gov.au/nrs-results-publications



Image courtesy of Horticulture Innovation Australia.

Table 1. Summary of compliance rates for animal food products in 2022-23, relative to Australian standards

Commodity	Samples collected	Compliance rates (%)
Beef	5,300	99.98
Buffalo	10	100
Camel	15	100
Chicken	300	100
Deer – Farmed	10	100
Deer – Wild Game	10	100
Hen Eggs	258	97.29
Goat	270	98.52
Honey	157	100
Horse	49	100
Kangaroo	50	100
Sheep	2,309	99.91
Pig	1,007	99.40
Poultry (other than meat chicken and hen eggs)	47	100
Wild boar	34	100
Aquaculture	190	100
Wild-Caught	122	98.36
Total	10,138	99.78

Table 2. A summary of compliance rates for plant products in 2022-23, relative to Australian standards

Commodity	Samples collected	Compliance rates (%)
Grains	7,024	98.8
Pome fruit	222	97.8
Almond	136	94.1
Macadamia nuts	112	100
Total	7,494	97.67



Images courtesy of Australian Fishing Enterprises (left) and Australian Pork Limited (right).

Actions taken for residues detected above the Australian standards

A traceback investigation can be undertaken following the detection of residues at levels above the Australian standards or that of an overseas market. These investigations are undertaken by the responsible state or territory agency in accordance with their control-of-use legislation.

Once the source and cause for the residue has been established, the responsible state or territory agency will provide advice to the producer to prevent future recurrence, and regulatory action may be taken.

All traceback activities and findings are reported to the NRS. Where appropriate, the findings are forwarded to participating industries and government authorities such as the Australian Pesticides and Veterinary Medicines Authority (APVMA) for consideration during its chemical review process. Providing feedback to participating industries is important for improving chemical use and on-farm agricultural practices.

Laboratory selection and performance

The NRS contracts laboratories to analyse animal and plant product samples for pesticide/veterinary medicine residues and environmental contaminants.

Laboratories are selected through the Australian Government procurement process based on their proficiency and value for money. Laboratories must be accredited to international standard ISO/IEC 17025 at commencement of testing.

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 information on maximum residue limits (MRLs) that apply for Australia and major export markets for industries supported by the NRS. All analysis results are checked for compliance with Australian standards and relevant international MRLs.

For the Australian MRL standard see legislation.gov.au/Series/F2023L01350

For MRL requirements for some international plant export markets see links at agriculture.gov.au/nrs-databases



Image courtesy of Grains Australia



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