



National Residue Survey 2018–19

Cattle



The National Residue Survey (NRS) is an operational unit within the Australian Government Department of Agriculture, 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 practice in support of chemical control-of-use legislation and guidelines.

NRS 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. 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.

Cattle program overview

The cattle program has been operating since the early 1960s and is funded through the NRS component of the cattle transaction levy. The program involves the testing of Australian cattle tissue samples for a range of pesticides, veterinary medicines and environmental contaminants.

Key points

- In 2018–19, the overall compliance with Australian standards was 99.94 percent.
- Australian cattle producers continue to demonstrate a high degree of good agricultural practice.
- The National Residue Survey is certified to ISO 9001 Quality Management System.

The program ensures beef exports satisfy Australian export certification and importing country requirements. In addition, the program supports industry quality assurance initiatives and enables domestic meat processing facilities to satisfy state and territory government regulatory authority licensing requirements.

Sample collection

The number of samples collected is based on Australian production levels and/or overseas export market requirements.

Samples are collected by authorised government officers at export abattoirs and by quality control officers at domestic establishments from randomly selected carcasses along the processing chain, in accordance with NRS requirements.

Analytical screens

Analytical screens are developed in consultation with the industry and take into account Australian registered chemicals, chemical residue profiles and overseas market requirements.

Cattle samples are screened for a range of pesticides, veterinary medicines and environmental contaminants, as shown in Table 1.

Results

In 2018–19, a total of 4,877 samples were collected for analysis. The results were compared with the Australian standards and where appropriate, relevant international standards.

TABLE 1 Analytical screens for the cattle program

Analytical screen	Chemical group	Analytes
Veterinary medicines and pesticides	Anthelmintics	includes macrocyclic lactones, salicylanilides and benzimidazoles
	Antimicrobials	includes aminoglycosides, anticoccidials, beta lactams, quinolones, macrolides, nitrofurans, phenicols, sulfonamides and tetracyclines
	Hormones	includes stilbenes, corticosteroids, resorcylic acid lactones and androgenic steroids
	Other medicines	includes beta-agonists and non-steroidal anti-inflammatory drugs
	Pesticides	insecticides, fungicides and herbicides
Environmental contaminants	Organochlorines	aldrin, chlordane, dieldrin, DDT, endrin, HCB, HCH, heptachlor, lindane, mirex, PCBs and pentachlorobenzene
	Metals	antimony, arsenic, cadmium, lead and mercury



TABLE 2 Compliance rates for the past six years relative to Australian standards		
Years	Samples collected	Compliance rates (%)
2013–14	6,000	99.96
2014–15	4,375	99.96
2015–16	4,386	100
2016–17	4,576	99.85
2017–18	4,576	99.89
2018–19	4,877	99.94

A summary of cattle sample compliance with Australian standards over the past six years is provided in Table 2. The results highlight excellent compliance with Australian standards and demonstrate the strong commitment of the cattle industry to good agricultural practice. The consistently high compliance rates help maintain the reputation and integrity of Australian beef in domestic and international markets. The yearly summary datasets for the cattle program are located on the department’s website agriculture.gov.au/nrs-results-publications.

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 tendering process on the basis of 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 a database of maximum residue limits (MRLs) established 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/F2019L01105. For MRL requirements for some international export markets see agriculture.gov.au/nrs-databases.



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