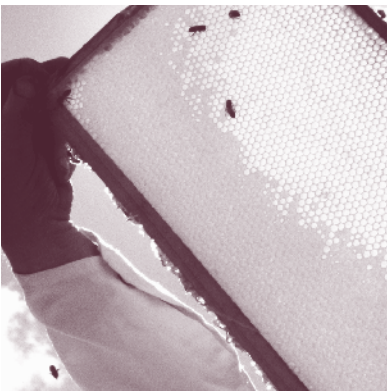


National Residue Survey
Annual Report 2007–2008



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Information on National Residue Survey publications is available on our website at www.daff.gov.au/agriculture-food/nrs.

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Reporting requirements

Section 10 of the *National Residue Survey Administration Act 1992* states that:

As soon as practicable after the end of each financial year, the Minister is to cause a report to be laid before each House of the Parliament setting out details of the operation of the National Residue Survey (NRS) Special Account including:

- (a) money paid into the NRS Special Account during that financial year; and
- (b) money paid out of the NRS Special Account during that financial year; and
- (c) financial statements relating to the NRS Special Account for that financial year; and
- (d) a description of activities undertaken in relation to the National Residue Survey during that financial year.

Responsible minister

The Australian Government Minister for Agriculture, Fisheries and Forestry is responsible for the National Residue Survey.



Australian Government

Department of Agriculture, Fisheries and Forestry

The Hon. Tony Burke MP
Minister for Agriculture, Fisheries and Forestry
Parliament House
CANBERRA ACT 2600

Dear Minister Burke

I am pleased to submit for tabling in Parliament the *National Residue Survey Annual Report 2007–2008* in accordance with Section 10 of the *National Residue Survey Administration Act 1992*.

The National Residue Survey has continued to support participating industries in maintaining international and domestic market access requirements through the provision of technically sound risk-based residue testing services.

During 2007–2008, 25 animal and 25 plant commodities from participating industries were tested in National Residue Survey random and targeted monitoring projects (in all, 18 889 samples and 383 414 analyses).

Successful discussions took place with the Grains Council of Australia and other key grain industry stakeholders and, from 1 July 2007, levies were established for a further 13 tradeable grains. The NRS grains residue testing program now comprises 20 tradeable grains (barley, canola, chickpea, faba bean, field pea, lentil, lupin, maize, mung bean, oats, sorghum, soybean, sunflower, triticale wheat, its derivatives, and bran and flour). The NRS program will sample all grain commodities exported via bulk shipment, and aims to collect grain samples from as many grain exports in containers and bags as is practicable. In addition, the program will continue to sample all known domestic grain streams, including maltsters, oilseed crushers and oat processors.

During 2007–2008, pre-tender testing of laboratories was carried out in preparation for the Ninth Term analytical laboratory contracts. Laboratories were selected and contracts signed for the provision of analytical services from 1 July 2008 to 30 June 2011.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Tom Aldred', with a long horizontal line extending to the left.

Tom Aldred
Executive Manager
Product Integrity, Animal and Plant Health Division

20 September 2008

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2007–2008 in brief

Total expenses for the National Residue Survey (NRS) in 2007–2008 were \$11.537 million. The Australian Government provided \$0.478 million for community service obligations, while participating industries provided \$11.063 million through levies and contributions for the management and operation of NRS programs.

NRS carried out random residue monitoring programs for 50 animal and plant products, with the largest numbers of samples collected from cattle, sheep, pigs and wheat grain. During 2007–2008, NRS coordinated the collection of 18 889 samples through these programs. In close consultation with the relevant industries and the Australian Quarantine and Inspection Service, all animal residue monitoring plans were reviewed and accepted.

On behalf of the cattle industry, NRS is developing a tender process to engage a contractor to undertake residue management audits of selected cattle properties. These audits will be based on elements of the livestock production assurance (LPA) quality assurance (QA) scheme, which is the largest Australian QA scheme for livestock producers. The contractor chosen through this tender process will also audit property management plans, where these are in place, to manage the risk of organochlorine residues from previous use of such chemicals. These audits will complement existing residue monitoring programs and provide additional assurance that agricultural chemicals and veterinary drugs are used appropriately in the cattle industry.

Levy collections for 13 additional grains started on 1 July 2007. The NRS grains program now includes all Australian tradeable grains moving in domestic and export markets. The focus of the program is to include sampling from as many grain marketers who export in bags and containers as practicable. Also, within a pilot targeted herbicide testing project, approximately 150 samples were analysed for a range of herbicide residues.

The coordination of sampling (701 samples) and results (30 942 analyses) of six targeted monitoring, compliance testing and residue prevention projects were undertaken on behalf of the beef and sheep industries (see pages 98–100).

Plans are underway to redevelop the NRS database and information management system to include web-based applications which improve data links between the NRS, sample collectors, sample handlers, analytical laboratories and participating industries. Design specifications are under development and tenders will be called in November 2008. NRS expects the redeveloped NRS database to be operational by December 2009.

Sample analysis under the Eighth Term analytical contracts for laboratories ceased on 30 June 2008. The new Ninth Term analytical contracts commenced on 1 July 2008 and will continue until 30 June 2011. During 2007–2008, NRS carried out pre-tender proficiency testing of laboratories preparing to submit tenders for the Ninth Term analytical contracts tendering process.

The three-year contract with the Australian wool industry ended in 2007, with the successful completion of the final proficiency testing round. NRS provided proficiency testing services involving several international wool residue testing laboratories. Laboratory proficiency testing services provided by NRS to the dairy industry's Australian Milk Residue Analysis Survey will continue. NRS has been an accredited provider of proficiency testing services since 2005.

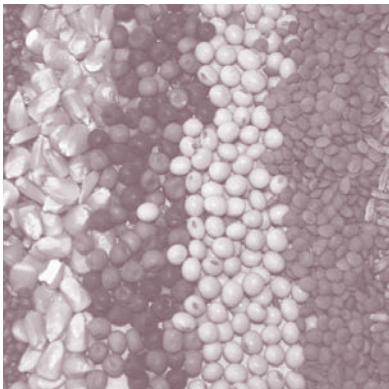
Summary of results for all random monitoring projects

NRS conducted random residue monitoring projects for 25 animal products and 25 plant products. In all, 383 414 analyses were carried out on 18 889 samples by contracted laboratories. The table below summarises the results of random residue monitoring projects from the major commodity groupings.

Commodity	Number of samples tested	Number of analyses ^a	Compliance with relevant Australian Standards [%]
ANIMAL PRODUCTS			
Meat	14 184	155 990	99.79
Egg	75	1 025	92.00
Honey	226	1 440	100.00
Fish (wildcaught)	109	563	100.00
Aquaculture	15	143	100.00
Total animal products	14 609	159 161	
PLANT PRODUCTS			
Grains	3 435	192 647	99.42
Horticulture	845	31 606	99.76
Total plant products	4 280	224 253	
Total all products	18 889	383 414	

^a Most samples are analysed for more than one chemical. This is the total number of chemical-commodity combinations that were specifically tested in each product type.

Detailed results tables for the various commodities are shown on pages 38–75 (meat); pages 76–78 (honey); pages 79–81 (egg); pages 82–87 (aquaculture); pages 88–97 (fish wildcaught); pages 112–157 (grains) and pages 158–165 (horticulture). For explanation of terms, see definitions on pages 235–239.



Introduction and overview

National Residue Survey 2007–2008

Introduction and overview

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About the National Residue Survey

The National Residue Survey (NRS) facilitates residue testing in animal and plant commodities from participating industries. Results are checked for compliance with Australian and international residue and contaminant standards. NRS also runs targeted testing and residue prevention projects in cooperation with relevant industries.

Goals

The goals of the National Residue Survey are:

- to assist participating industries to gain and maintain access to international markets
- to support domestic marketing of Australian produce
- to assist in reducing the risk of non-compliance with Australian and international residue standards.

Residue monitoring is part of an overall strategy of the Australian Government Department of Agriculture, Fisheries and Forestry (the Department) to minimise chemical residues in agricultural produce. Residue monitoring can also identify potential problems, including failure to comply with good agricultural practice, and can indicate where follow-up action is required to maintain Australia's reputation as a supplier of produce that meets the access requirements of both international and domestic markets.

The Australian Government initially established NRS in the early 1960s, following concerns about pesticide residues in exported meat. Since then, NRS has expanded to test other animal, grain, horticulture and fish products for agricultural and veterinary (agvet) chemical residues, as well as for urban, rural and environmental contaminants. Relevant legislation was established in 1992 (see page 11 for details).

NRS is an operational unit within the Food and Product Safety and Integrity Branch of the Product Integrity, Animal and Plant Health (PIAPH) Division of the Department. NRS outputs described in the following pages of this annual report contribute to the overall activities of PIAPH and the Department, in particular those concerned with managing residues in foods (described in *Output 5* of the *Department of Agriculture, Fisheries and Forestry Annual Report 2007–2008*).

The core work of NRS remains that of testing animal and plant products for agricultural and veterinary chemical residues and environmental contaminants. Product testing is done through either random or specifically designed sampling protocols. Other programs within NRS, such as laboratory evaluation and business activities, support the core work of residue testing.

NRS comprises four business units:

Unit 1: Animal product residue testing (random and targeted monitoring, compliance testing and residue prevention).

Unit 2: Plant product residue testing (random monitoring only).

Unit 3: Residue chemistry and laboratory performance evaluation (laboratory performance evaluation and proficiency testing, and externally funded laboratory performance evaluation).

Unit 4: Business and administration (business support, administration and management of community service obligation funding).

This annual report describes the NRS programs within these four business units, along with their performance measures, and provides the annual financial statements.

Background: residue testing

The National Residue Survey was established under the *National Residue Survey Administration Act 1992 (Cwlth)* (see page 11) for the purpose of monitoring and reporting the level of contaminants in food, inputs to production and/or the environment. The term ‘residue’ (unless otherwise specified) is used in this report to apply to both residues and contaminants.

Residues are classified as being *present* if their concentration is greater than the limit of reporting (LOR) established for NRS purposes. NRS typically sets the LOR at 10% to 20% of the Australian Standard maximum residue limit (MRL), extraneous residue limit (ERL) or maximum level (ML)¹.

Residues, health and trade

In agriculture, the term *residue* is generally used to describe small amounts of a chemical, or its breakdown products, that remain in or on a product. In the context of food concerns, the term *residue* also includes metals or other chemicals such as mycotoxins. These may be present in food either through natural circumstances or as a consequence of industrial or agricultural activities.

Conventional agricultural systems depend extensively on the use of a wide range of agricultural and veterinary chemicals. Current analytical technology can detect such chemicals at very low concentrations. It is therefore to be expected that, if a chemical has been used on an agricultural product, it may be detected, albeit at levels consistent with the chemical use pattern and good agricultural practice.

Under these circumstances the detection of a residue is not a matter of concern, except when the use of the relevant chemical is unauthorised, or its concentration is greater than a limit set in either the context of trade (domestic, export or import) or human health. In reality, human health is rarely an issue since Australian Standards for residues (MRLs) are set at levels necessary to meet health needs. Detection levels are usually less than the MRL, but even detections over the MRL are normally low with regard to health concerns. This means that an occasional detection at, or just above, the MRL is not likely to cause any adverse health effects when the product is consumed.

Food standards take into account the residue levels that are normally likely to occur (environmental contaminants), and the amount that should not be exceeded if good agricultural practices have been followed (agricultural and veterinary [agvet] chemicals). Climate, geography, pests, diseases and products vary from country to country and as a consequence the limits set for particular residues in certain products in different countries may vary.

¹ For definitions of technical terms see pages 235–237.

The general purposes of residue monitoring are to:

- provide an estimate of the occurrence of residues in products (using systems based on sampling and statistical probability)
- confirm (or otherwise) that residues in products are below set limits
- alert responsible government authorities and industry if, and when, limits are exceeded, so that corrective action can be taken.

Where residue levels that exceed Australian Standards are found in NRS samples, traceback activities are the responsibility of the state or territory government authority from which the samples originate (see page 11 for further details of the traceback process).

Setting of Australian Standards

Maximum residue limits (MRLs), extraneous residue limits (ERLs) and maximum levels (MLs) become Australian Standards in the Australia New Zealand Food Standards Code (the Code) upon gazettal, following consideration by Food Standards Australia New Zealand (FSANZ) and the Australia New Zealand Food Regulation Ministerial Council (ANZFRMC).

MRLs are set for all agvet chemicals registered for use in Australia. The Australian Pesticides & Veterinary Medicines Authority (APVMA) has a major role in this process. MRLs are proposed by APVMA at levels not likely to be exceeded if agvet chemicals are used in accordance with on-label directions, and have been shown by dietary exposure assessment to not pose a risk to human health. The term *good agricultural (or veterinary) practice* is applied to the use of agvet chemicals in accordance with their label directions.

All MRLs proposed by APVMA for food, agricultural commodities and animal feed are published in the APVMA MRL Standard. MRLs for food commodities are then considered by FSANZ and, if endorsed by ANZFRMC, are adopted into the Code. NRS monitors residue levels against MRLs listed in the Code. However, where APVMA has established an MRL that has not yet been adopted into the Code, this fact is taken into consideration by NRS when interpreting the significance of any results that fall between existing and proposed MRLs.

ERLs are in a separate schedule within the Code.

MLs are set only where they serve an effective risk management function and only for foods that provide a significant contribution to dietary exposure to a particular contaminant. MLs are set at levels that are consistent with the protection of public health and safety, and are reasonably achievable through sound production and natural resource management practices.

Interpreting the presence of residues in the absence of an Australian Standard

The Code specifies that, where no MRL or ERL has been set for a particular agvet chemical residue in a particular food, there must be no detectable level of that residue present, and therefore any detectable residue is unacceptable. By contrast, where no ML has been set for a particular environmental contaminant in a food, food producers are expected to keep the level of contaminants as low as reasonably achievable, but it is accepted that a low level of contamination may be unavoidable.

In the results tables, the following terms are used to indicate residue standards that have not been established for a specific chemical–matrix combination:

- **‘not set’** for an *agvet chemical in an edible matrix*: this means that no standard has been set for the chemical in the particular edible matrix, and any detection is a contravention of the Australia New Zealand Food Standards Code.
- **‘not defined’** for an *agvet chemical in a non-edible matrix*: this means that, due to the inedible nature of the matrix, no standard has been set. Inedible matrices such as urine and faeces may be tested as indicators.
- **‘no limit’** for an *environmental contaminant in an edible matrix*: no standard has been set for the contaminant. The ‘as low as reasonably achievable’ principle applies, and detections at low levels are allowable.

Chemical–commodity selection for residue testing

Chemical–commodity combinations are selected on the basis of risk profiles. Those combinations of highest risk are identified for inclusion in NRS residue monitoring projects. In developing risk profiles, the main factors considered are:

- international and/or domestic perceptions of the chemical–commodity combination as a possible public health hazard
- the likelihood of residues occurring in the product (potential for misuse; persistence in the crop, animal or environment; extent of use, and use patterns)
- the extent and results of previous monitoring for the chemical–commodity combination
- the Australian Standards for residues, and market access requirements of trading partners
- the availability of suitable sampling and analytical methods.

Importing countries sometimes require analyses for particular chemicals of concern to them. Consequently, in its residue monitoring projects NRS may test for chemicals not registered for use in Australia.

Choice of matrix for analysis

The matrix (tissue or material) expected to contain the highest concentration of a residue is usually selected for analysis. The matrix may be inedible, and does not necessarily represent the part most likely to be eaten (e.g. fat is analysed for pesticides; kidney is analysed for antibiotics; liver is analysed for metals; and, for some hormonal growth promotants, the matrix chosen for testing is urine or faeces). The levels of chemicals detected in such material are usually much higher than in meat.

Residue sources

The results of NRS residue monitoring help to audit the use of currently registered agvet chemicals in Australia. At present, chemicals that may be detected as residues include:

- antibiotics used to control microbial diseases in animals
- anthelmintics used to control internal parasites in animals
- hormonal growth promotants used as veterinary medicines or to improve growth in livestock
- fungicides used to control fungal diseases in plants and plant products
- insecticides and acaricides used to control insect and mite pests in crops, to protect grain, and to control external parasites on animals
- fumigants used as grain protectants, and to sterilise soil, storage sheds, animal houses and bee hives
- herbicides used to control weeds in crops.

Other sources of residues include those from the unintended exposure of plants and animals to chemicals that are no longer registered for use in Australia. Such chemicals include some organochlorine (OC) pesticides and polychlorinated biphenyl (PCB) compounds. These can remain in the soil for long periods, and livestock can accidentally ingest or come into contact with them and become contaminated.

Environmental contaminants

In this report, the term *environmental contaminant* refers to those chemicals in the natural environment that may contaminate agricultural produce. Such chemicals include some metals, some naturally occurring mycotoxins (toxins produced by certain fungi) and some persistent organic pollutants. In this report, the results for OCs are included with the pesticide results, as, although they can be considered environmental contaminants, their presence in the environment is the result of past use as a pesticide.

Traceback of non-compliant samples

When a sample is detected with a residue that is above an Australian Standard or defined residue action level,² the laboratory immediately notifies NRS, which then informs the state or territory government authority under whose jurisdiction the sample originated. State or territory government authorities are responsible for tracing the sample back to its property of origin to prevent further contraventions. Subsequent actions depend on both the chemical detected and the commodity in which it is found, and are specified by state or territory legislation. Action varies from simple advice in the case of a minor problem, to quarantining the property concerned, or prosecution where serious contamination has occurred. NRS is notified of traceback activities and findings.

Funding and administration

Legislation

The *National Residue Survey Administration Act 1992 (Cwlth)* (the Act) established the NRS Special Account that funds NRS projects. The Act permits, with industry agreement, expenditure from the NRS Special Account for the prevention of contamination in food, inputs to production and/or the environment. Other legislation, including the *National Residue Survey (Customs) Levy Act 1998*, the *National Residue Survey (Excise) Levy Act 1998* and related levy imposition, levy collection, financial management and associated legislation, also relates to the management and governance of NRS projects.

Funding

NRS holds a Special Account for the purposes of the *Financial Management and Accountability Act 1997*, and is established under the *National Residue Survey Administration Act 1992* section 6(2) and subsection 5(3) of the *Financial Legislation Amendment Act 1999*. Payments from this Special Account may be spent on monitoring and reporting the level of residues and contaminants in applicable products³ or from the environment, tracing and determining the sources and causes of these contaminants, and investigating and preventing such residues and contaminants. NRS is accountable to the Australian Parliament as well as to participating industries because of the legislative base for its funding and operation.

² See page 255.

³ Projects for applicable products can be implemented only if the relevant body in the industry (as determined by the minister) agrees to the projects.

Industry levies

Industry levies are the primary source of funding for running NRS residue testing programs. Also, some industry groups fund NRS directly (under contract) to undertake random residue monitoring or laboratory performance evaluation and proficiency testing.

Although NRS legislation does not require any industries to participate in NRS, several need to do so in order to meet requirements for market access or export certification, or to satisfy obligations under national standards.

To ensure equity, levies held in the NRS Special Account are accounted for on an industry-by-industry basis through industry equalisation accounts (IEAs). IEAs are reviewed annually in consultation with industry, and NRS advises industry on the possible need for levy changes to ensure sufficient funds for future NRS-based activities. Variation in seasonal production levels can have a marked effect on NRS income from levies. Target funds in IEAs are between 60% and 200% of annual project costs, depending upon the size of the NRS program. The Department's Levies Revenue Service coordinates the collection of all levies across the Department on a fee-for-service basis. This arrangement minimises levy collection costs.

Levy rates are established in consultation with participating industries in accordance with the principles outlined in the Australian Government's *Levies Principles and Guidelines: Policies for the Management of New and Amended Levies within Australia*.⁴

These general principles must be met before a new statutory levy, including a NRS levy on departmental portfolio industries, can be introduced or an existing levy rate adjusted. The levy general principles ensure that there is comprehensive consultation with potential levy payers before a change is made to levy arrangements. During 2007–2008 there were no levy establishments or amendments to existing levies.

Contingency funding for emergency responses

Residue incidents, particularly those involving overseas markets, require decisive, effective and well-coordinated action on the part of industry and governments to minimise the immediate and longer-term economic impacts on the affected industry. Protecting market access and preserving the reputation of industry as providers of low-residue produce is the paramount objective of industry and governments. NRS is able to respond to contingencies, but only to the extent that there are sufficient funds in each industry's IEA in the NRS Special Account.

Community service obligation funding

An Australian Government appropriation is provided to NRS for community service obligations (CSOs) that contribute to broader government and community objectives concerning residues, and international commitments. Such activities deliver technical and policy advice to ministers and relevant government agencies, and contribute to the work of residue-related committees (e.g. the international Codex Alimentarius Commission [Codex] of the joint Food and Agriculture Organization of the United Nations/World Health Organization [WHO]).

⁴ www.daff.gov.au/agriculture-food/levies

CSO funds enable NRS officers to develop synergies between industry-funded projects and activities being undertaken in Australian and international forums, for the mutual benefit of industry and government. They also fund the input of NRS expertise into departmental and governmental projects. During 2007–2008, the CSO appropriation provided about 4% of NRS total revenue.

Purpose and functions

NRS random residue monitoring projects underpin the efforts of participating industries to gain or maintain market access, both overseas and within Australia. The efficient conduct of projects, delivery of high-quality advice, and the provision of reliable data can also assist in the resolution of residue-related trade incidents.

The chart below summarises the functions and activities of NRS within the existing policy, legislative and administrative framework.

NATIONAL RESIDUE SURVEY CLIENTS ARE:

- participating industries
- ministers
- Australian, state and territory governments
- trading partners
- the general community.

NATIONAL RESIDUE SURVEY CORE ACTIVITIES ARE:

- coordinating residue testing programs for animal and plant commodities, including random and targeted monitoring, compliance and consignment testing, and residue prevention projects
- providing data to underpin market access and quality assurance programs
- providing advice to relevant authorities on non-compliant residues
- compiling an up-to-date residue results database available to participating industries in supporting management of residue-related incidents
- providing technical and policy advice to parliament, ministers and industry.

UNDERPINNING TOOLS, ACTIVITIES AND FRAMEWORKS THAT GUIDE PERFORMANCE ARE:

LEGISLATION

National Residue Survey Administration Act 1992

Annual report

Annual **Operational and Expenditure Plan**

Departmental framework and values

VALIDITY OF ANALYTICAL RESULTS

Accredited laboratory performance evaluation and proficiency testing of contracted laboratories

MANAGEMENT FRAMEWORK

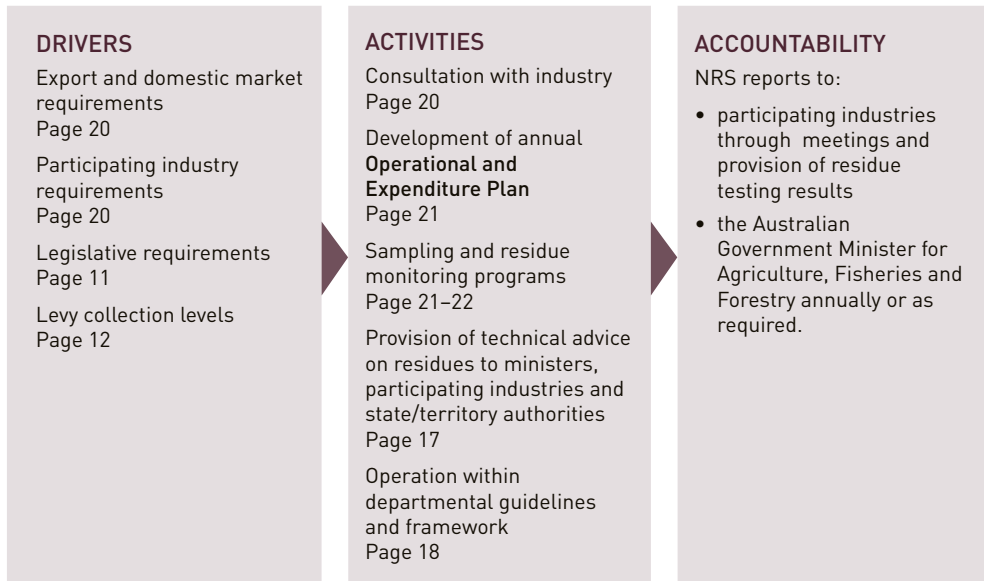
Program management
Administrative and financial management
Departmental collection of levies

PARTICIPATING INDUSTRIES' REQUIREMENTS

Ongoing industry consultation and reviews
Legislative standards of trading partners

Governance model

The sampling and residue testing programs designed and managed by NRS respond to the requirements of export and domestic markets for participating industries, according to the governance model below.



Performance

NRS-wide activities and performance measures are summarised in the following table.

Performance indicators	Outputs and activities	Performance measures
1, 2, 3	Residue testing programs designed in consultation with industry to underpin market access and industry quality assurance programs.	Acceptance by participating industries, the Australian Quarantine and Inspection Service (AQIS) and federal and state governments that NRS programs meet industry's market access and quality assurance requirements within specified budgets. Efficient and cost-effective delivery of services to industry within the policy, legislative and administrative framework of the Australian Government.
1, 2, 3	Consultative project planning activities with participating industries and appropriate regulatory bodies.	Effective communication with participating industries, appropriate regulatory bodies, trading partners and the Australian Government.
2, 3	Results of residue monitoring programs (random, targeted, compliance and consignment testing) available to participating industries to support both market access and industry quality assurance programs.	Acceptance by participating industries, AQIS, trading partners and the Australian Government that results meet regulatory certification and standard setting requirements.
2, 3	Independent, authoritative and technically sound residue data reports and advice.	Acceptance of NRS reports and advice by relevant bodies.
4	Support for the management of trade-related residue or contaminant issues.	Acceptance of NRS technical advice by participating industries, AQIS, the Australian Government and trading partners.
4	Technical and policy advice, and administrative support to industry, the minister and the Australian Government for residue-related matters such as setting of codes and regulations.	Provision of timely and high quality technical and policy advice to support ministers, industry and government.
4, 5	Compiled data on residue and contaminant levels in commodities of participating industries.	Data compiled in a timely manner and made available to industry and governments as necessary, in accordance with relevant privacy regulations.
5, 6	High-quality plans and reports provided to the Australian Government, industry and stakeholders on residue issues.	Acceptance by industry and government of financial and operational management as given in relevant reports.
4, 5, 6	High-quality business administration, financial and day-to-day management of residue and contaminant testing programs.	Management of projects in accordance with the Department's corporate governance framework. Provision of a high-quality annual report and operational and expenditure plan to parliament within the legislative timeframe. Provision of other appropriate reliable and well-produced plans and reports as required by each program.

Details of the performance indicators referred to in the summary table above and specific NRS achievements during 2007–2008 follow.

PERFORMANCE INDICATOR ONE

Acceptance by industry that NRS projects meet appropriate market access and quality assurance requirements.

Residue monitoring projects designed by NRS in consultation with industry take into account:

- industry and importing countries' testing requirements
- international trends in monitoring and food standards (e.g. changing food standards required by Australia's overseas trading partners)
- sample numbers
- sampling methods
- analytical developments such as new methods of analysis or availability of new multi-residue methods
- availability of funds.

Achievements

Review of residue monitoring projects NRS consulted each industry commodity's peak body or representative regarding the format, financial and operational requirements of residue monitoring projects. The results of these consultations were used to prepare residue monitoring plans for 2007–2008, while taking into account the level of industry IEAs held in the NRS Special Account and their ability to pay for desired residue monitoring projects.

Ninth Term laboratory contracts (2008–2011) Information from the above review was used in preparatory work for development of the Ninth Term request-for-tender for contracting laboratories to undertake analysis of NRS residue monitoring samples. The Ninth Term contracts began on 1 July 2008 and run until 30 June 2011. NRS has completed consultation with all stakeholders on a range of analyte changes in order to adhere to the NRS project planning cycle, streamline the laboratory procurement process, and meet perceived changes in market risks.

Residue monitoring plans NRS successfully implemented the residue monitoring plans agreed in the *National Residue Survey Operational and Expenditure Plan 2007–2008*. NRS consulted each commodity's peak body or representatives regarding residue monitoring plans for 2008–2009, including numbers of samples to be collected and tested. The consultation included discussion of residue monitoring plans, the analyte list and the level of industry IEAs held in the NRS Special Account.

PERFORMANCE INDICATOR TWO

Acceptance by the Australian, state and territory governments that results meet regulatory certification and standard setting.

Achievements

Use of NRS results in underpinning industry market certification and assurance NRS results were used by:

- AQIS for export certification
- state and territory government authorities to oversight meat production for domestic consumption
- SAFEMEAT¹⁰ to monitor potential residue threats to the red meat industry
- Food Standards Australia New Zealand (FSANZ) in considering changes to the Australia New Zealand Food Standards Code (ANZFSC)
- the Australian Pesticides & Veterinary Medicines Authority (APVMA) in its review of particular registered chemicals
- Ministers and Australian state and territory government authorities involved in residue management issues
- the Codex Committee on Pesticide Residues for Australia's input into the evaluation of pesticide MRLs.

¹⁰ SAFEMEAT is a partnership between the Australian meat and livestock industry and the Australian, state and territory governments.

PERFORMANCE INDICATOR THREE

Acceptance by trading partners that NRS random monitoring projects meet their market access requirements.

Achievements

Residue monitoring plans 2007–2008 and results reports 2006–2007	<p>NRS prepared plans and results reports concerning the monitoring of chemical residues in farmed animals, farmed game and wild game and submitted these to the relevant authorities in the European Union (EU) and the United States (US). Plans are cleared through SAFEMEAT. In addition to the submissions to the EU and US, copies of plans were also sent to authorities in Canada, Mexico, China and Russia through the relevant Australian overseas diplomatic posts.</p> <p>The plan <i>Monitoring of Chemical Residues in Honey 2007–2008</i> and the results report for 2006–2007 were prepared by AQIS and submitted to the EU.</p>
International reviews of Australia's residue control systems	<p>NRS provided presentations on its residue testing programs to overseas delegations, including those from China, Thailand and Korea.</p>

PERFORMANCE INDICATOR FOUR

Provision of timely and high-quality technical and policy advice to support ministers, industry and government.

Achievements

Technical and policy advice	<p>NRS provided advice to the minister on:</p> <ul style="list-style-type: none"> • the business of government, including tabling of the <i>National Residue Survey Annual Report 2006–2007</i> and approval of the <i>National Residue Survey Operational and Expenditure Plan 2007–2008</i> • levy rates, which remained unchanged for all commodities during the 2007–2008 financial year • expected changes in targeted testing practices on behalf of the Australian beef industry.
Technical advice to the Department	<p>NRS provided advice to various divisions within the Department on trade-related concerns for grain, horticultural, animal and animal-derived products. In particular, advice was provided concerning changes in MRLs for Taiwan and the European Union, and grain exports to Asian countries.</p>
Facilitation of access to international food standards	<p>NRS provides access to some international food standards for overseas trading partners on its website.¹¹</p>
Review and advice provided to APVMA	<p>NRS reviewed methodology and provided advice to APVMA on methods related to the establishment of export slaughter intervals. NRS also discussed with APVMA a number of issues associated with analytical methods, the disclosure of methods, residue analysis and reporting.</p>
FSANZ food surveillance network	<p>NRS regularly participated and provided input to the network.</p>
Codex Alimentarius Commission committees and meetings	<p>NRS led delegations and gave input concerning the Australian position on agenda items affecting the interests of Australia and industry to three Codex committees and their associated workshops: the Codex Committee on Residues of Veterinary Drugs in Foods, the Codex Committee on Pesticide Residues and the Codex Committee on Methods of Sampling and Analysis (see page 186 for details).</p>

¹¹ www.daff.gov.au/agriculture-food/nrs

PERFORMANCE INDICATOR FIVE

Management of the projects in accordance with the Department's corporate governance framework.

Achievements

National Residue Survey Annual Report 2006–2007	The <i>National Residue Survey Annual Report 2006–2007</i> was tabled in Parliament on 23 October 2007.
National Residue Survey Operational and Expenditure Plan 2007–2008	NRS consulted industry to define residue monitoring projects to fulfil market access requirements within the specified budgets. The <i>National Residue Survey Operational and Expenditure Plan 2007–2008</i> was submitted to the minister, who approved it on 1 July 2007. Highlights included plans for random residue monitoring projects for animal and plant products, with the highest numbers of samples to be collected from cattle, pigs, sheep and grain. Levy collections for 13 additional grains commenced on 1 July 2007. The NRS grains program now includes all Australian tradeable grains moving in domestic and export markets. An additional focus of the program is the inclusion of samples from as many grain marketers exporting in bags and containers as practicable.
Commencement of Ninth Term analytical contracts	The Eighth Term analytical contracts closed on 30 June 2008. Pre-tender testing carried out ensured that the Ninth Term (2008–2011) commenced smoothly on 1 July 2008 with new and re-contracted laboratories.
Improvement in governance and business practices	During 2007–2008, the financial arrangements of NRS were reviewed. Improvements in financial reporting recommended by this review are being implemented. Organisational changes were made to improve linkages between NRS, the Product Integrity, Animal and Plant Health Division, and the Department.
NRS quality assurance program	The purpose of the NRS quality assurance program is to maintain and improve, where practical, the effectiveness and efficiency of all NRS operations, including procedures and protocols covering the development of monitoring plans, the support of export certification and the domestic trade of animal products. Consultation with industry stakeholders ensures that all quality and operational aspects of NRS activities meet domestic and internationally accepted scientific standards, as well as NRS, industry and government requirements. NRS recruited a dedicated quality assurance officer to develop and oversee the program.

PERFORMANCE INDICATOR SIX

Efficient and cost-effective delivery of the services to industry, within the policy, legislative and administrative framework of the Australian Government.

Achievements

NRS financial arrangements	Through a review of NRS financial management and reporting arrangements, changes have been implemented to improve accountability and transparency. This work is ongoing and subject to further enhancements through consultation with participating industries.
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Organisation

Staffing

Following a restructure in 2006–2007, staff are now allocated to one or more of the four NRS business units, as shown in the organisational chart below.

NRS has a flexible mix of appropriately qualified permanent and contract staff to match the requirements of the projects, and is actively engaged in the professional development and performance management of staff. Through performance agreements, coupled with ongoing appraisal and development, NRS management seeks to ensure that it has the committed and skilled staff it needs to achieve its objectives efficiently and effectively.

Structure

NRS is an operational unit of the Food and Product Safety and Integrity Branch of the Product Integrity, Animal and Plant Health Division of the Department.

From 1 January 2007, NRS's structure comprised four business units: animal product residue testing; plant product residue testing; residue chemistry and laboratory performance evaluation; and business and administration.

National Residue Survey organisational chart



Outputs

NRS delivers services to clients within the policy, legislative and administrative framework of the Australian Government and the Department.

These services include:

- random residue monitoring projects, covering residues of agvet chemicals and environmental contaminants in food, and inputs to production (including from the environment) that may affect Australian agricultural and fisheries industries
- targeted monitoring, compliance and residue prevention projects that support the identification of sources of residues, and minimisation of those particular residues or contaminants
- support for projects that underpin market access and industry quality assurance programs.

NRS provides consultative, efficient and cost-effective services to its clients by working cooperatively with other government agencies with complementary responsibilities. NRS management responds to the needs of industry and government through maintaining awareness of developments in its operating environment, undertaking risk assessments, and engaging in strategic business planning and operations.

Residue testing activities

Industry participation

Industries participate in NRS residue monitoring programs to meet market access expectations, export certification or national standards, or to assure customers of the quality of their product. NRS provides participating industries with results on the level of compliance of their products with the appropriate Australian Standards.

Data from the NRS residue monitoring projects are used by AQIS to certify the residue and contaminant status of certain commodities for export. From time to time, trading partners audit the operation and results of NRS residue monitoring plans. Some countries require a government-managed residue monitoring plan as a condition of market access.

In the Australian domestic meat market, participation in residue monitoring is a general requirement of the Australian Standard for hygienic production of meat for human consumption. Industries that do not export a large percentage of their production may also use NRS monitoring results to support domestic quality assurance programs and other marketing initiatives, or to provide assurances to domestic consumers.

Project planning

NRS designs residue monitoring projects in consultation with industry and AQIS. This includes determining sampling rates, and selecting chemical-commodity combinations based on a range of factors, including assessed risk.

In addition, NRS:

- designs and manages sampling procedures, including sample collection, identification and dispatch to laboratories
- procures appropriate analytical services from contract laboratories, and monitors their proficiency
- manages and analyses data
- initiates tracebacks
- manages financial information.

Sampling, data storage and analytical arrangements

The NRS database is used for data storage, processing and retrieval, sample requests, data receipts, and payments to service providers.

For example, for random residue monitoring projects, a sample request that specifies the details of the samples to be collected is generated through the database. The request is then sent to sample collection points. Collected samples are then sent directly to specified laboratories (or, for the meat projects, to the NRS central receipt and dispatch facility for aggregation, repacking and forwarding to laboratories). The laboratories analyse the samples and report the analytical results to NRS electronically. NRS validates all results before they are entered on the NRS database. Residue levels above ANZFSC limits are reported to the appropriate regulatory authorities so that prompt traceback action may be taken.

NRS does not undertake chemical analyses. Instead, laboratories are contracted by NRS for specified terms. Contracts for laboratory services are established by NRS through a competitive tender process, in keeping with Australian Government guidelines, that also affirms the capabilities of the selected laboratories. Commercial, international, and Australian and state/territory government laboratories hold contracts with NRS.

NRS conducts performance evaluation and proficiency testing of laboratories to determine their relative performance and their competence to undertake specific chemical analyses. Such proficiency testing underpins NRS activities and promotes a high level of confidence in test results.

Reporting

An operational and expenditure plan is prepared for each financial year, in accordance with the legislative requirement that payments made from the NRS Special Account be consistent with an expenditure plan approved by the minister.

Each year, in compliance with the legislation, NRS prepares an annual report for tabling in parliament. This annual report gives details of the completed NRS projects outlined in the *National Residue Survey Operational and Expenditure Plan 2007–2008*, as well as the results of the random residue monitoring projects.

An abridged version of the annual report, the NRS brochure, is prepared each year and distributed to industry and other clients. The brochure summarises the compliance ratings of participating industries.

Both the annual report and the brochure are also published on the NRS website, where further information is readily available.¹²

Residue testing programs

The NRS residue testing programs involve random, targeted and compliance monitoring of animal and plant commodities, residue prevention, consignment testing, and laboratory performance evaluation and proficiency testing.

¹² www.daff.gov.au/agriculture-food/nrs

Random monitoring

Projects are designed to estimate the occurrence of a residue (or residues) in animal and plant products by randomised sampling processes. The likelihood of residues from agvet chemicals or contaminants (for example, metals and persistent halogenated organic chemicals) guides the choice of chemicals that are measured in the samples. The chemicals and contaminants include those used in agricultural and veterinary practice, and those necessary to fulfil export and domestic marketing requirements.

NRS random residue monitoring data facilitate and underpin the setting or review of Australian Standards, the certification of commodities for export (where this is required), and compliance with requirements for domestic consumption. This underpinning helps participating industries to maintain long-term access to, and competitive advantage in, important export markets, and to conduct promotions in new and potential markets. Data from NRS results also serve as a yardstick against which industry-operated quality assurance schemes can be assessed. The results may also assist in the resolution of residue-related trade incidents.

Targeted monitoring

Projects within this program are designed to obtain more focused information for industry concerning known or potential residue problems, using targeted (non-random) sampling processes.

Compliance testing

Projects within this program are part of regulatory control measures and are designed to prevent the normal marketing of products with a known contamination risk.

Residue prevention

Projects within this program are designed to prevent or minimise the risks of unacceptable residues that may affect trade.

Consignment testing

Projects within this program are designed to meet the specific requirements of particular client industries for market access support (e.g. products for which each consignment must be sampled prior to export).

Laboratory performance evaluation and proficiency testing

NRS provides laboratory performance evaluation and accredited proficiency testing services. These services ensure the reliability of the analytical results upon which the residue testing programs depend. Also, two laboratory performance evaluation and proficiency testing projects within this program are externally funded, supporting participating industries that also carry out residue analyses. Currently, NRS provides proficiency testing services to the Australian Milk Residue Analysis (AMRA) Survey on behalf of Dairy Food Safety Victoria, and to Australian Wool Innovation (AWI) Limited.

Outlook

A major undertaking for NRS, in cooperation with participating industries, is the ongoing identification of additional analytes to be included in both the animal and plant programs during the Ninth Term of analytical contracts (2008–2011).

On behalf of the cattle industry, NRS is developing a tender process to engage a contractor to undertake residue management audits of selected cattle properties. These audits will be based on the elements of the livestock production assurance (LPA) quality assurance (QA) scheme, which is the largest Australian QA scheme for livestock producers. The contractor chosen through this tender process will also audit property management plans, where they are in place, to manage the risk of organochlorine residues from previous use of such chemicals. These audits will complement existing residue monitoring programs and provide additional assurance that agricultural chemicals and veterinary drugs are used appropriately in the cattle industry.

NRS is reviewing its information management system (including the NRS database), in close cooperation with participating industries, state governments and AQIS, to start using electronic sample forms and to enhance data dissemination.

