

The Australian approach  
**Dairy Food Safety**

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# Introduction

The dairy industry is one of Australia's major rural industries with approximately 5,700 farmers producing about 9 billion litres of milk annually.\* Australia is among the top four largest global exporters of dairy products.

Australian dairy farmers are cost efficient pasture based producers of high quality milk. On farm productivity continues to increase through improved pastures, supplementary feed and herd management techniques.

Viable dairy industries supplying fresh milk to nearby cities and towns exist in all Australian states. As a major regional employer, the industry value-adds through the processing of milk to produce butter, cream, frozen milk products, cheese, yoghurts, specialised powdered milks and dairy ingredients. Around 35% of the total milk production is exported. Major export markets include China, Japan, S.E. Asia, other parts of Asia, and the Middle East.

Based upon risk management supported by quality science, the Australian dairy industry has developed stringent quality management systems that are underpinned by comprehensive regulatory requirements. Customer needs, food safety and product traceability are paramount for the quality systems but other factors such as animal welfare, biosecurity and environmental sustainability are also important considerations in the development of the quality management programs. Industry quality assurance (QA) programs require all sectors of the

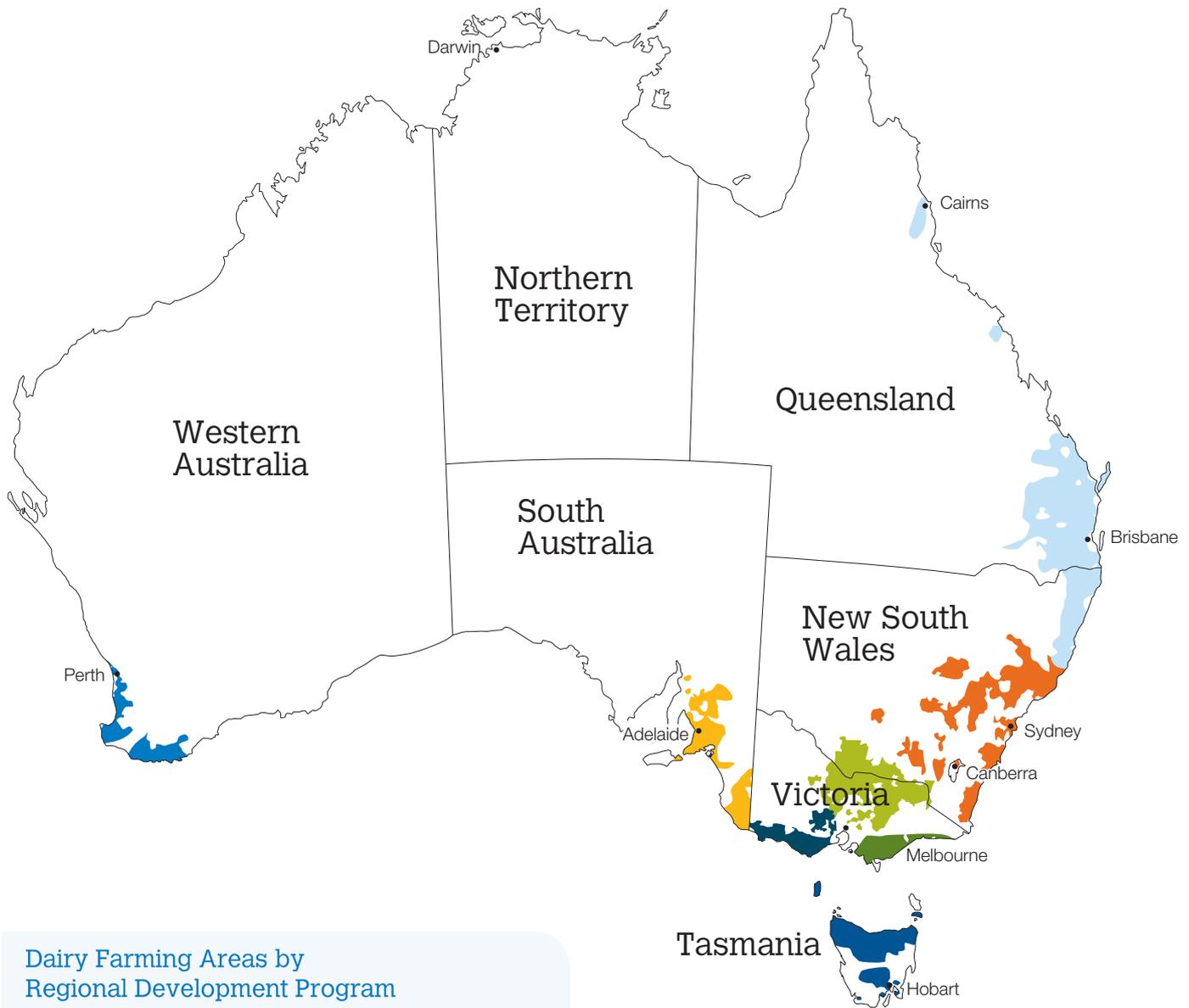
supply chain to take responsibility for food safety.

The industry works collaboratively with federal and state government regulatory agencies and service suppliers to ensure a preventative approach to food safety across the integrated supply chain. Potential risks are monitored on an ongoing basis, with industry regularly updated on possible consequences from the risks. The industry's approach to food safety and quality is outcomes focused, science based, non-prescriptive and proportionate to risk.

The national regulatory framework is an integrated system involving federal and state regulatory agencies, dairy farmers, dairy companies and Dairy Australia. Internationally recognised Codes and Standards provide a basis for Australian dairy food regulation.

\* Source: Australian Dairy Industry in Focus 2017

# Dairy farming areas by Regional Development Program



# National Regulatory Framework

## Development of Dairy Food Policy

The Australian and New Zealand Ministerial Forum on Food Regulation, consisting of Health and Agriculture Ministers from the states and territories and the Governments of Australia and New Zealand, sets policies for food production in Australia. Food Standards Australia New Zealand (FSANZ) uses these policies as a framework to develop food standards.

The Australian Department of Agriculture and Water Resources (DAWR) provides certification for exported dairy products and helps facilitate market access arrangements. DAWR is also responsible for the surveillance of animals, feeds and foods imported into Australia.

International standards and codes of practice derived from the Codex Alimentarius Commission, World Animal Health Organisation (OIE), World Trade Organisation (WTO) agreements and World Customs Organisation (WCO) provide guidelines for Australian food regulation.

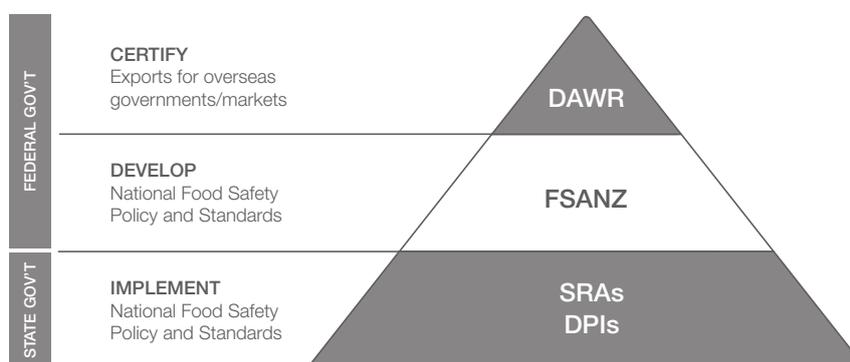
## Development of Food Standards

Food standards covering all foods produced domestically or imported for sale in Australia and New Zealand are developed by FSANZ in conjunction with stakeholders such as consumers, government agencies and industry groups. The Standards are published in the Australia New Zealand Food Standards Code (FSC). The FSC includes the Primary Production and Processing Standard for Dairy Products.

DAWR regulates the export of dairy products to meet importing country requirements through the Export Control Act and the Export Orders. Wherever possible the Export Orders are harmonised with the FSC.

The Australian Pesticide and Veterinary Medicines Authority (APVMA) is responsible for a national system that evaluates and registers agricultural and veterinary chemicals and specifies the conditions of use.

The National Biosecurity Committee, and its subcommittee, the Animal Health Committee (AHC) develop national approaches for the control of



### SOME PARTNER GROUPS

- APVMA: agricultural and veterinary chemicals
- AHA: animal health and welfare, disease control
- NLIS: animal traceability
- EPAs: environmental issues

animal diseases and management of animal health and welfare. The implementation of the national approaches is supported by Animal Health Australia (AHA). The National Livestock Identification System (NLIS) provides lifetime traceability for animals.

State Environment Protection Authorities (EPAs) establish and administer regulations and codes of practice for the protection of the environment and water.

## Enforcement and verification

Food standards are enforced in the Australian dairy industry predominately by State Regulatory Authorities (SRAs) in conjunction with State Health Departments (DoHs) and local government.

DAWR has arrangements in place with SRAs for the enforcement of standards for exported dairy products. DAWR may inspect or check test imported foods for compliance with Australian standards.

From farm to product distribution, all dairy businesses must be licensed to supply products for the domestic market. Individual Food Safety Programs (FSP) for farms and factories are validated by SRAs before licences are granted and compliance is checked through continuous monitoring and regular audits.

In addition, dairy businesses that export dairy goods from Australia are registered by DAWR. These businesses must implement an Approved Arrangement which addresses

Australian export requirements, as well as the requirements of the countries they export product to.

State Departments of Primary Industries/ Agriculture (DPIs) enforce regulations for use of chemicals on farms, animal welfare, control of animal disease and biosecurity including traceability.

The relevant State Veterinary Practitioners Registration Board registers veterinarians for clinical practice. Many animal treatments must be presented and administered by a registered vet.

State Environment Protection Authorities (EPAs) monitor the environment including soils, water and air quality for conformance with regulatory requirements.

## Surveillance

Businesses, industry and regulatory agencies (SRAs and DAWR) monitor the safety and quality of milk and dairy products through the supply chain. Food safety surveillance is supported by industry and government through national surveys and targeted research.

The Australian Milk Residue Analysis (AMRA) Survey is an important measure in monitoring the safety of milk. (See further information section for more about the AMRA Survey).

State Departments of Health (DoHs) and local governments monitor the safety of food at retail level.

# National Regulatory Framework

- Indicates primary responsibility
- Indicates secondary responsibility

	Domestic market			
	Federal influences		State Government influences	
	FSANZ	APVMA	SRAs	DPIs
<b>Pre-farm</b>				
Animals	○		○	●
Water	○		○	○
Feed	○	●	●	○
Agriculture & Vet chemicals	○	●	○	●
Fertilisers	○		○	●
<b>Farm</b>				
Feed	●	○	●	●
Water	●		●	○
Agriculture chemicals	●	●	●	●
Fertilisers	●		●	●
Veterinary chemicals	●	●	●	●
Animals	●		●	●
Premises and equipment	●		●	
Milking practices	●		●	
Cleaning	●	●	●	
Milk storage	●		●	
Skills and knowledge	●		●	●
Traceability	●		●	●
<b>Transport</b>				
Milk / Traceability	●		●	○
<b>Manufacture</b>				
Milk	●		●	
Ingredients	●		●	
Water	●		●	
Packaging materials	●		●	
Equipment	●		●	
Cleaning	●		●	
Skilled staff	●		●	
Traceability	●		●	
<b>Distribution</b>				
Product / Traceability	●		●	
<b>Markets</b>				
Product / Traceability	●		○	

## Notes

1. In some regions, the regional Catchment Management Authority has responsibility for regulation of effluent and run off.
2. State Health Departments have agreed arrangements with State Regulatory Authorities (SRAs) for implementation of regulation for the farm, transport, manufacture and distribution sectors of the supply chain.
3. DAWR approves SRAs as authorised agencies for export regulations.
3. DAWR is responsible for regulatory oversight of importation of goods in these categories.





Potential risks to food safety and product integrity from initial inputs such as feed, livestock, fertilisers, water and chemicals are assessed by government and national industry agencies on an ongoing basis.

The risk management approach leads to the development of standards and codes of practice and guidelines for use by farmers and the farm service sector.

# Pre-farm

Producing milk and meat requires a range of inputs: feed, livestock, fertiliser, chemicals, water, skilled labour and other resources. The industry sees each of these inputs as essential to food safety and product integrity along the supply chain, so the risks are identified and controlled by a range of standards and systems operating well before the inputs reach the dairy farm.

## Feed

Farmers acquire about one-third of their herd's feed requirements from off-farm sources, including grain, concentrates, fodder and sometimes by-products from the food industry e.g. molasses, brewers grain.

Potential risks from stockfeed are managed in some States under regulation enforced by DPIs. Nationally, the grains and stockfeed industries have HACCP based accredited QA programs for use by their members to ensure the feed is safe for use by livestock e.g. Feedsafe. The Australian Pesticide and Veterinary Medicines Authority (APVMA) determines the types of chemicals and their use in the production of stockfeed as well as determining maximum residue limits (MRL). Vendor declarations about the background and quality of the feed are supplied with consignments of feed to dairy farmers.

To prevent the transmission of disease, state livestock disease control law prohibits the feeding of ruminants with

animal material. Compliance is regulated by State Departments of Primary Industries/Agriculture (DPIs) with monitoring and reporting undertaken by Animal Health Australia (AHA).

## Animals

Australia is recognised internationally as being free of cattle diseases such as Bovine Tuberculosis, Brucellosis and BSE. DAWR manages biosecurity on imported animals and plant materials at national level while DPIs are responsible authorities for the management of biosecurity at state level.

Electronic ear tags identify all cattle from the property of birth through to death or slaughter. This ensures traceability of the animal's movements, interactions with other animals, and health status through its life. The National Livestock Identification System (NLIS) provides the framework for the identification of all Australian livestock.

Vendor declarations are required to accompany animals moving to and from the farm. The declaration provides information about the specific animal identification, health status, access to and withhold periods for treated feedstuffs and veterinary treatments.

Animal Health Australia (AHA) coordinates the implementation of national animal health programs across Australia. These programs are implemented through the SDPIs with the assistance of the livestock industries and registered veterinarians.

## Fertiliser

State legislation ensures fertilisers are appropriately labelled, and sets maximum limits for elements that may accumulate or pose a risk to agriculture over the longer term.

## Chemicals

The importation, manufacture, supply and use of agricultural and veterinary chemicals is tightly regulated through Federal and state legislation administered by the APVMA in conjunction with state governments. Chemicals including pesticides must be registered before they are supplied to farmers, a process involving a rigorous assessment of efficacy, safety, and the potential impacts on trade and the environment. An approved label details instructions for use and withholding periods for milk and meat.

Only registered veterinarians can supply prescription veterinary chemical treatments (such as antibiotics) for use.

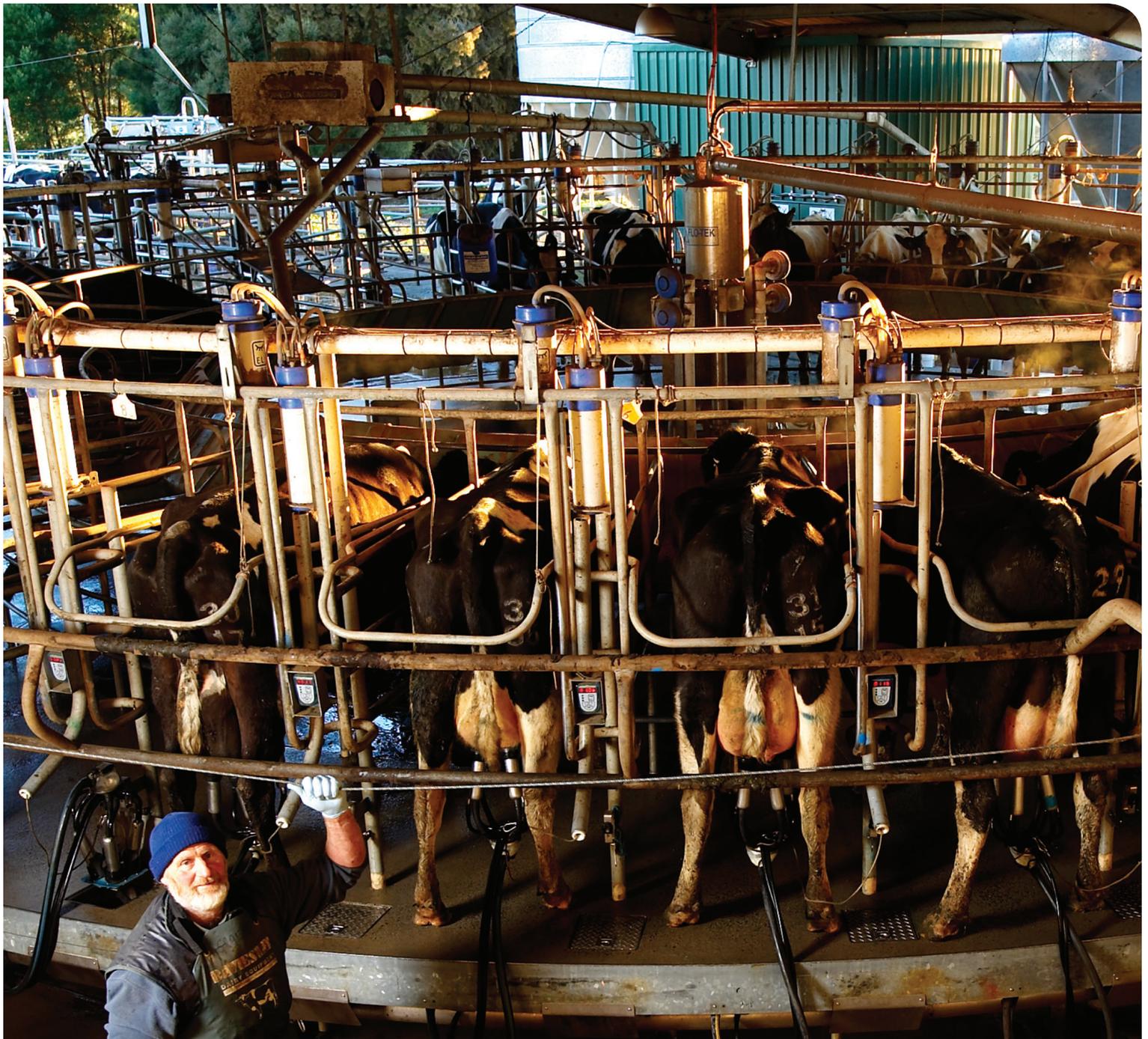
## Water

Farm Food Safety Programs (FSPs) ensure water supplies are of suitable quality to protect animal health and to prevent contamination of milk. State Environment Protection Authorities (EPAs) regulate the disposal of effluent, which must be retained on farm and cannot contaminate the water supply or environment.

	Domestic market						Export market			Partner agencies influences	
	Federal influences		State Government influences				DAWR <sup>1</sup>	SRAs	DPIs	AHA	NLIS
	FSANZ	APVMA	SRAs	DPIs	EPAs	DoH					
<b>Pre-farm</b>											
Animals	○		○	●			○	●	●	●	
Water	○		○	○	●	○		○	○		
Feed	○	●	●	○				○	●		
Agriculture & Vet chemicals	○	●	○	●	○			○	●		
Fertilisers	○		○	●	○			○	●		

### Notes

1. DAWR approves SRAs as authorised agencies for export regulations.
1. DAWR is responsible for regulatory oversight of importation of goods in these categories.



All Australian dairy farms are required to have documented food safety programs (FSP). State Regulatory Authorities (SRAs) approve the FSP before a dairy farm licence is granted. Compliance with the FSP is monitored and/or audited by an approved auditor on a regular basis.

All animals are individually identified from birth to death. Farmers actively monitor the health and welfare of animals with the assistance of registered veterinarians.

Vendor declarations are required for animals and stockfeed purchased from external sources.

Risks from agricultural and veterinary chemicals are minimised by ensuring that only chemicals registered by the Australian Pesticide and Veterinary Medicines Authority (APVMA) are used on the farm. Label instructions for use and withholding periods for milk and meat are followed. Records document the frequency and duration of use.

Trained operators use clean and sanitised equipment to milk cows. The milk is cooled promptly and stored at temperatures to minimise the growth of microbial hazards, until collected by the milk tanker.

# Farm

Dairy farms in Australia are primarily pasture-based with conserved fodders, grains and prepared stock-foods used as supplementary feed.

Under the FSANZ Food Standards Code (FSC) Standard 4.2.4 all dairy farms are legally required to develop and implement a documented Food Safety Program (FSP). Core elements of the FSP include:

- › Control of contaminants – physical, chemical and microbiological
- › Dairy milking premises
- › Hygienic milking
- › Water supply and quality
- › Cleaning and sanitising
- › Traceability and records
- › Personnel competency

These programs are validated by SRAs before dairy farm licences are issued. Approved auditors conduct regular audits to monitor compliance. Approval of auditors follows the National Food Safety Audit Policy program requirements.

Risks from agricultural chemicals in feed and water are minimised by the use of chemicals registered by the APVMA, with farmers following label directions for use and required withholding periods

for milk and meat. The farmer must keep records of agricultural chemical applications as part of their FSP. Vendor declarations are required for feed sourced from external sources.

The health and welfare of the animals is paramount to ensure optimal production. Although most dairy cattle are bred on the farm, all livestock must be individually identified from birth to death to ensure lifetime traceability. In consultation with registered veterinarians, farmers actively monitor and treat diseases as required. Treated animals must be clearly identified to ensure segregation of unsuitable milk.

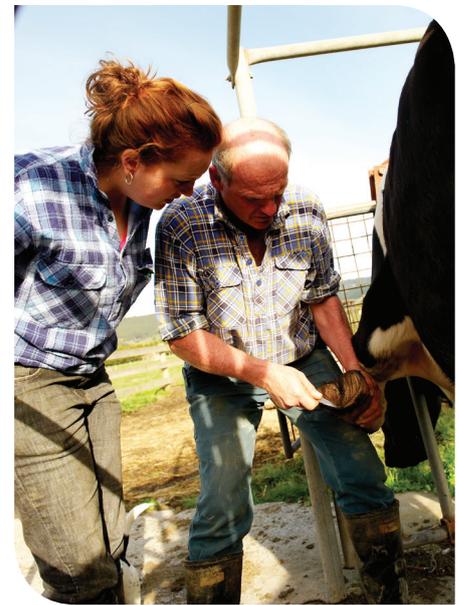
Vendor declarations are required when animals are sold off farm or purchased from external sources.

All antibiotics and most other veterinary chemicals are only available by prescription through registered veterinarians. Farmers must use veterinary medicines in accordance with label directions, observe recommended withholding periods for milk and meat and keep records of all treatments.

Government controls diseases of regional significance through a range of legislated programmes under the

Livestock Disease Control legislation. Welfare standards for animals are legislated by each State.

To support farmers with the management of mastitis, reproduction and animal welfare, the Australian dairy industry has developed and conducts numerous extension programs that address animal health and welfare issues e.g. mastitis, lameness, reproduction, calf management, and heat stress.



	Domestic market						Export market			Partner agencies influences	
	Federal influences		State Government influences				DAWR <sup>3</sup>	SRAs	DPIs	AHA	NLIS
	FSANZ	APVMA	SRAs	DPIs	EPAs <sup>1</sup>	DoH <sup>2</sup>					
<b>Farm</b>											
Feed	●	○	●	●		○	○	●	○		
Water	●		●	○	●	○	○	●	○		
Agriculture chemicals	●	●	●	●	●	○	○	●	●		
Fertilisers	●		●	●	●	○	○	●	●		
Veterinary chemicals	●	●	●	●	●	○	○	●	●		
Animals	●		●	●		○	○	●	●	●	
Premises and equipment	●		●			○	○	●	●	●	●
Milking practices	●		●			○	○	●			
Cleaning	●	●	●			○	○	●			
Milk storage	●		●			○	○	●			
Skills and knowledge	●		●	●		○	○	●	●		
Traceability	●		●	●		○	○	●	●		●

#### Notes

1. In some regions, the regional Catchment Management Authority has responsibility for regulation of effluent and run off.
2. State Health Departments have agreed arrangements with State Regulatory Authorities (SRAs) for implementation of regulation for the farm, transport, manufacture and distribution sectors of the supply chain.
3. DAWR approves SRAs as authorised agencies for export regulations.



### Milk harvesting

Skilled staff use modern machine milking techniques and practices to ensure that cows are milked hygienically with minimal stress. The cows are usually milked twice a day. Colostrum is segregated from the main milk supply.

Milking equipment is cleaned and sanitised ready for the next milking using detergents and sanitisers registered by the APVMA. The quality of water used in the dairy is monitored to ensure it does not have the potential to contaminate milk.

Trained technicians supply and maintain milking equipment.

The milking shed and holding yards are designed and constructed to minimise animal stress and injury and for ease of cleaning. Effluent is disposed carefully to minimise pollution of the environment, the farm and surrounding water supplies.

### Milk storage

Milk is quickly cooled after collection from the cow and before storage in a bulk milk vat. FSC Standard 4.2.4 requires milk to be cooled and stored at temperatures that prevent or minimise the growth of microbial hazards in the milk. The temperature of milk is checked before being loaded for transport.

Trained personnel service the cooling system and calibrate equipment. Cleaning and sanitising procedures for cooling and storage equipment are documented and implemented in accordance with the farm's FSP.

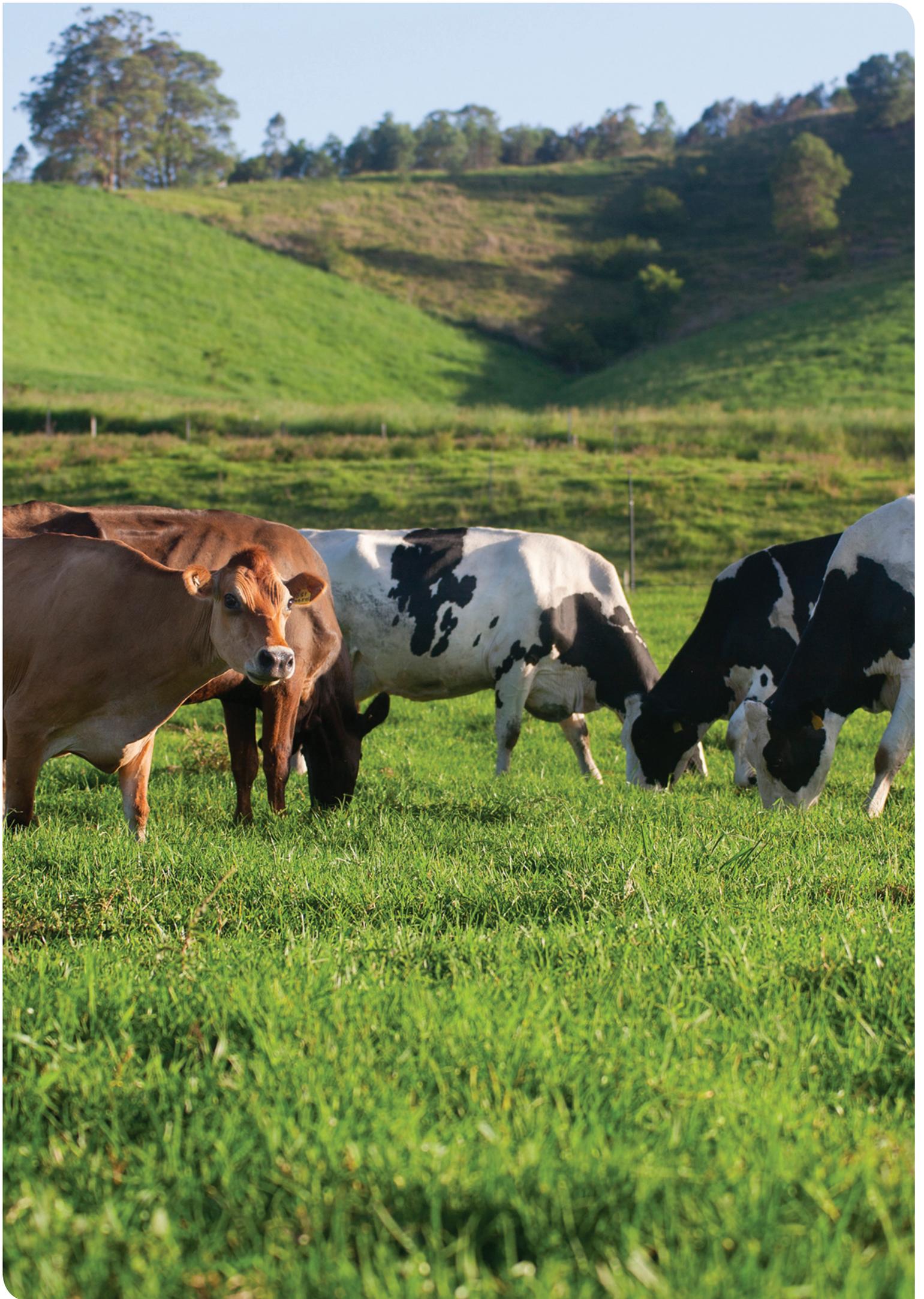
### Skills and knowledge

Skilled managers and staff are required to manage potential food safety risks that may arise from the milk production process. Information from dairy companies on milk quality and feedback from audits of the farmer's FSP assists farm managers to ensure the safety and quality of milk.

The dairy industry supported by educational providers develop and deliver specialist programs to strengthen farmers' skills.

### Traceability

The farm FSP requires comprehensive records to be maintained. These include use of chemicals, animals treated, milk and meat withhold periods, vendor declarations for incoming and outgoing feed and animals, milk quality reports, audit results and action taken if problems are identified.



Milk transport operators must have an approved Food Safety Program (FSP) and be licensed by the relevant State Regulatory Authority (SRA).

The temperature of milk and time of transport is managed to minimise potential food safety risks.



# Transport

In most jurisdictions, milk transport operators are licensed by the SRA and are required to have a documented and approved FSP which includes:

- › control of food safety hazards during collection and transport from equipment, vehicles, containers and personnel
- › product traceability
- › time and temperature controls
- › personnel skills and knowledge

In peak season, collection usually occurs daily. When production declines, milk collections may reduce to a SRA approved frequency.

During milk collection at the farm, tanker drivers sample milk for testing by the company. Typical tests include fat, protein, somatic cell count, microbiological quality and antibiotic residues. The results of the tests are provided to the farmer and used as a basis for payment. If an abnormal result is detected, such as positive antibiotic residue or high somatic cell count, the farmer is promptly notified of the result and appropriate action is taken.

Prior to unloading at the factory, the manufacturer checks the milk for quality.

Typical tests include antibiotic residues and temperature. If a positive residue result is detected, the load is held for confirmatory testing whilst trace-back testing is performed on individual milk samples from each farm supplier so corrective action can be taken.

Milk not meeting the required Standard is segregated and disposed of under regulatory supervision.

The temperature of milk is recorded at collection and the time of transport is controlled to minimise potential hazards.

Tankers are cleaned using Cleaning in Place (CIP) systems with approved chemicals and potable water. Visual inspections of the internal tanker surfaces and swabbing of food contact surfaces may be used to check the effectiveness of cleaning programmes.

Information on the origin of and destination of milk supplies is recorded to ensure traceability from farm to manufacturer and from manufacturer to farm if required.



Domestic market						Export market			Partner agencies influences	
Federal influences		State Government influences				DAWR <sup>2</sup>	SRAs	DPIs	AHA	NLIS
FSANZ	APVMA	SRAs	DPIs	EPAs	DoH <sup>1</sup>					

Transport										
Milk / Traceability	●		○			●	●	○		

#### Notes

1. State Health Departments have agreed arrangements with State Regulatory Authorities (SRAs) for implementation of regulation for the farm, transport, manufacture and distribution sectors of the supply chain.
2. DAWR approves SRAs as authorised agencies for export regulations.



All dairy manufacturers must have an approved Food Safety Program (FSP) before being licensed by State Regulatory Authorities (SRAs) for domestic production and for registration by DAWR for export production. HACCP principles are used to assess and manage food safety risks in the factory.

Product specifications reflect compliance with customer requirements, Australian regulatory requirements within the FSANZ Food Standards Code (FSC) and in the case of exports, the requirements of DAWR and the importing country.

All suppliers of ingredients, services and packaging work with dairy manufacturers to ensure their materials and services meet the manufacturer's requirements, especially with regard to the traceability of ingredients and materials.

All dairy manufacturers have Product Recall systems.

Auditors approved by SRAs and DAWR are used to verify compliance with the manufacturer's FSP and/or approved arrangements.

# Manufacture

Once delivered to the manufacturer, milk is processed in modern and automated factories using responsible environmental practices. The relevant SRA licenses all dairy manufacturing establishments, while those manufacturing product for export require additional DAWR registration.

All manufacturing of dairy products must comply with the Food Standards Code (FSC). FSC Standard 4.2.4 includes requirements for the manufacture of all dairy products including raw milk cheeses.

Dairy manufacturing establishments must operate according to a documented HACCP based Food Safety Program. Their FSP must be approved by the relevant SRA prior to the granting of a licence to manufacture. Additional quality assurance programs may be adopted to meet customer and market specifications.

The core elements of the FSP for manufacturing establishments include:

- › pathogen reduction technologies including pasteurisation
- › temperature controls
- › processing
- › cleaning and sanitising
- › storage
- › traceability forwards and backwards through the supply chain from farm to customer
- › post- pasteurisation hazard management

- › raw material and ingredient management
- › records
- › personnel competency

Product specifications reflect compliance with regulatory requirements within the FSC and in the case of exports, the requirements of DAWR and the importing country.

The dairy collection and transportation section of FSC Standard 4.2.4 covers food safety requirements for milk and bulk dairy products transferred to other factories for further processing.

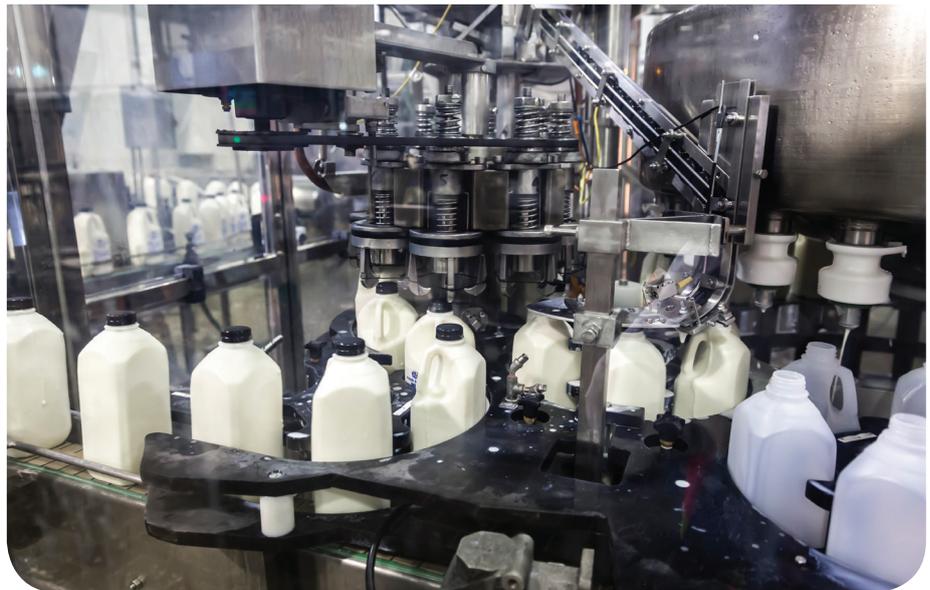
All suppliers of ingredients, services and packaging work with dairy manufacturers to ensure their materials

and services meet specific requirements, especially with regard to food safety and the traceability of materials.

Potable quality water is used in processing of milk and dairy products and for cleaning of surfaces in direct contact with product.

Rigorous standards exist for the design and construction of factories in order to minimise cross-contamination of the final product from raw materials and the external environment.

Storage and processing equipment is constructed to meet manufacturing requirements and to ensure food contact surfaces are clean and hygienic.



	Domestic market					Export market			Partner agencies influences	
	Federal influences		State Government influences			DAWR <sup>2</sup>	SRAs	DPIs	AHA	NLIS
	FSANZ	APVMA	SRAs	DPIs	EPAs					
<b>Manufacture</b>										
1. Milk	●		●			○	●	●		
2. Ingredients	●		●			○	●	●		
3. Water	●		●		○	○	●	●		
4. Packaging material	●		●		○	○	●	●		
5. Equipment	●		●			○	●	●		
6. Cleaning	●		●		●	○	●	●		
7. Skilled staff	●		●			○	●	●		
8. Traceability	●		●			○	●	●		

## Notes

1. State Health Departments have agreed arrangements with State Regulatory Authorities (SRAs) for implementation of regulation for the farm, transport, manufacture and distribution sectors of the supply chain.
2. DAWR approves SRAs as authorised agencies for export regulations.

# Manufacture

Approved chemicals are used in cleaning and sanitising of processing equipment.

Standard operating procedures are used to train staff and to provide ongoing guidance for the safe manufacture of products.

Verification techniques used by dairy companies include:

- › testing of milk and ingredients
- › measurement of temperature, time and chemical composition
- › calibration of measuring and testing equipment
- › monitoring of the factory environment for contaminants
- › final product testing
- › internal auditing of procedures



Information such as product name, date of production, production plant and packing equipment is used to identify different product batches. Additional information including nutritional and use by information is required for labels of goods sold within Australia and in overseas markets.

Under the FSC, all manufacturers are required to have a Product Recall system in place detailing the measures to be taken in the unlikely event of a product recall. The system is based on the FSANZ Food Industry Recall Protocol.

Manufacturers regularly check their ability to trace the movement of product and raw materials forward through the production process and backwards through the supply chain.

Training and development of staff in all areas of food safety, quality, environment and occupational health and safety is imperative for companies seeking to improve their performance while maintaining compliance.

External auditors approved by regulatory agencies including SRAs and DAWR conduct audits of the food safety and quality systems of factories. Follow-up audits are conducted if non-compliance is noted.

Australian and international customers may also audit all or part of a company's food safety and quality assurance program.

An annual verification program is undertaken by DAWR and SRAs to confirm the implementation of key



elements of Australia's food safety systems. In addition, SRAs and other regulatory agencies monitor the safety of milk and dairy products. The Australian Milk Residue Analysis (AMRA) Survey is an important part of Australia's verification process of the safety of dairy products (refer to Further Information for more information on the AMRA Survey).

Industry guidelines for food safety post farmgate have been developed through collaboration of SRAs, DAWR, and industry working groups. Examples include Guidelines for Food Safety Validation and Verification of Heat Treatment and Processing Equipment.

Dairy manufacturers actively work with State Environment Protection agencies to reduce the impact of dairy processing on the environment.



Warehouses are usually licensed by State Regulatory Authorities (SRAs) for product destined for the domestic market and require registration by DAWR for storage of export product.

For traceability purposes, records are maintained of incoming and outgoing product including damaged goods.

All warehouses have a product recall system based upon the FSANZ Product Recall Protocol.



# Distribution

Prior to dispatch to customers, finished product is stored in warehouses operated by the dairy company or by external contractors.

Warehouses used for export product need to be registered by DAWR.

The FSP must address the prevention or control of potential hazards to food safety, as well as identification and thus traceability of product.

In addition to the FSP, the warehouse must have a Product Recall system based upon the FSANZ Food Industry Recall Protocol.

Prior to loading of product, warehouse staff check the cleanliness of the interior of transport vehicles and shipping containers. Where required, temperature of the product is checked at loading and monitored throughout the distribution chain.

Transporters of bulk product between dairy manufacturing plants intended for further processing are required to have a FSP conforming to the requirements of FSC Standard 4.2.4.

Containers destined for export are sealed and appropriate documentation is completed prior to shipping.



Companies use the DAWR ExDoc electronic system for certification of dairy exports.

Auditors approved by regulatory agencies including SRAs and DAWR conduct audits to verify compliance with the warehouse's FSP and/or approved arrangements. Additional follow-up audits are conducted if non-compliance is noted.

Australian and international customers also conduct audits on all or part of a warehouse's quality assurance programme.

Domestic market						Export market				Partner agencies influences	
Federal influences		State Government influences				DAWR <sup>2</sup>	SRAs	DPIs	AHA	NLIS	
FSANZ	APVMA	SRAs	DPIs	EPAs	DoH <sup>1</sup>						

Distribution										
1. Product / Traceability	●		●			○	●	●		

## Notes

1. State Health Departments have agreed arrangements with State Regulatory Authorities (SRAs) for implementation of regulation for the farm, transport, manufacture and distribution sectors of the supply chain.
2. DAWR approves SRAs as authorised agencies for export regulations.



Australian dairy manufacturers work closely with domestic and international customers to ensure safe and consistent quality dairy products are supplied year around.

FSANZ is the key authority for development of national food standards and codes of practice for products destined for the domestic market and imported dairy products. State Health Departments implement the standards at state level.

DAWR plays an important role in interpreting and negotiating the market access requirements of importing countries. The regulatory framework for dairy products sold within Australia and overseas is harmonised wherever possible.

Federal and state government agencies work closely with industry to provide safe dairy products for both Australian and international customers.

# Markets

The relationship between Australian dairy companies and their domestic and international markets has been developed over years through close communication with customers and consistent delivery of safe quality dairy products.

Retail or ingredient customers within Australia and overseas apply rigorous buying specifications. Typical buying specifications include product specification, transport conditions and the buyers' expectations of the quality assurance approach. Many customers audit their suppliers on a regular basis.

Competent authorities within Federal and State government regulatory agencies underpin the national approach to food safety and quality. Standards and Codes developed by international agencies such as Codex Alimentarius Commission and World Trade Organisation provide guidance to the Australian dairy food regulatory framework.

The FSANZ Food Standard Code (FSC) covers all food products either manufactured within Australia or imported. The FSC includes requirements for:

- › General Food Standards including
  - Labelling and other required information
  - Substances added to foods
  - Contaminants and Residues including MRLs
  - Foods requiring Pre-Market Clearance
  - Microbiological Limits and Processing Requirements

- › Product Standards
- › Food Safety Standards
- › Primary Production and Processing Standards

Under the FSC, all manufacturers, wholesalers, distributors and importers of food are required to have in place a written recall plan. The recall plan should be modelled upon the FSANZ Product Recall Protocol.

Under Australia's export legislation and importing country requirements, DAWR is the competent authority for export inspection and certification. Export regulations cover many requirements including the importing country's food safety requirements, product standards, biosecurity, quarantine standards and traceability.

Ongoing discussions occur between DAWR, federal and state regulators as well as industry to ensure maximum

harmonisation of export and domestic requirements wherever possible. Industry and regulators have established a valuable co-regulatory approach.

International and domestic customers demand safe and high-quality dairy products, delivered reliably. This requires an integrated approach by the Australian dairy industry and regulators, to consistently deliver food safety and quality across the supply chain from farm to customer.



Domestic market						Export market				Partner agencies influences	
Federal influences		State Government influences									
FSANZ	APVMA	SRAs	DPIs	EPAs	DoH <sup>1</sup>	DAWR <sup>2</sup>	SRAs	DPIs	AHA	NLIS	

Markets											
1. Product / Traceability	●		○			●	●	○			

## Notes

1. State Health Departments have agreed arrangements with State Regulatory Authorities (SRAs) for implementation of regulation for the farm, transport, manufacture and distribution sectors of the supply chain.
2. DAWR approves SRAs as authorised agencies for export regulations.

## Agencies at a glance

	Common Acronyms	Organisation
<b>Federal Government</b>		
	FSANZ	Food Standards Australia New Zealand
	DAWR	Department of Agriculture and Water Resources
	APVMA	Australian Pesticide and Veterinary Medicines Authority
<b>National industry groups</b>		
	AHA	Animal Health Australia
	DA	Dairy Australia
	NLIS	National Livestock Identification System
<b>State Government Regulators</b>		
State Regulatory Authorities	SRAs	
	DFSV	Dairy Food Safety Victoria
		NSW Food Authority
		Safe Food Production Queensland
	TDIA	Tasmanian Dairy Industry Authority
		Dairysafe South Australia
		WA Department of Health Food Unit
State Departments of Primary Industries/ Agriculture	DPIs	
	DEDJTR	Department of Economic Development, Jobs, Transport and Resources
	DPIPWE	Department of Primary Industries, Parks, Water and Environment Tasmania
	PIRSA	Department of Primary Industry and Resources SA
	DPI NSW	NSW Department of Primary Industries
	DAF QLD	Queensland Department of Agriculture and Fisheries
	DPIRD WA	Department of Primary Industries and Regional Development
Environmental Protection Authorities	EPAs	
Veterinary Practitioners Registration Boards		

Function	Website
Sets food standards for sale of foods within Australia and New Zealand	<a href="http://www.foodstandards.gov.au">www.foodstandards.gov.au</a>
Negotiates with importing countries re market access requirements Administers inspection and certification of exported dairy products Inspects imported food products	<a href="http://www.agriculture.gov.au">www.agriculture.gov.au</a>
Administers the national scheme for the assessment, registration and supply of agricultural and veterinary chemicals	<a href="http://www.apvma.gov.au">www.apvma.gov.au</a>
Coordinates national animal health programs	<a href="http://www.animalhealthaustralia.com.au">www.animalhealthaustralia.com.au</a>
Develops and delivers services to support the dairy industry's farm production, manufacture and export capabilities	<a href="http://www.dairyaustralia.com.au">www.dairyaustralia.com.au</a>
Australia's system for livestock identification and traceability	<a href="http://www.nlis.com.au">www.nlis.com.au</a>
Administer dairy food safety in each state	<a href="http://www.dairysafe.vic.gov.au">www.dairysafe.vic.gov.au</a> <a href="http://www.foodauthority.nsw.gov.au">www.foodauthority.nsw.gov.au</a> <a href="http://www.safefood.qld.gov.au">www.safefood.qld.gov.au</a> <a href="http://www.dpipwe.tas.gov.au/biosecurity-tasmania/product-intergrity/food-safety/dairy">www.dpipwe.tas.gov.au/biosecurity-tasmania/product-intergrity/food-safety/dairy</a> <a href="http://www.dairy-safe.com.au">www.dairy-safe.com.au</a> <a href="http://www.health.wa.gov.au">www.health.wa.gov.au</a>
Enforce regulations regarding livestock disease, livestock identification, animal welfare, use of agriculture and veterinary chemicals. Advise and assist dairy farmers	<a href="http://www.agriculture.vic.gov.au/agriculture">www.agriculture.vic.gov.au/agriculture</a> <a href="http://www.dpipwe.tas.gov.au">www.dpipwe.tas.gov.au</a> <a href="http://www.pir.sa.gov.au">www.pir.sa.gov.au</a> <a href="http://www.dpi.nsw.gov.au">www.dpi.nsw.gov.au</a> <a href="http://www.daf.qld.gov.au">www.daf.qld.gov.au</a> <a href="http://www.agric.wa.gov.au">www.agric.wa.gov.au</a>
Develop policy planning and regulation for the environment and sustainable industries. Monitor and enforce regulations	<a href="http://www.epa.vic.gov.au">www.epa.vic.gov.au</a> <a href="http://www.ehp.qld.gov.au">www.ehp.qld.gov.au</a> <a href="http://www.epa.tas.gov.au">www.epa.tas.gov.au</a> <a href="http://www.epa.sa.gov.au">www.epa.sa.gov.au</a> <a href="http://www.epa.wa.gov.au">www.epa.wa.gov.au</a> <a href="http://www.epa.nsw.gov.au">www.epa.nsw.gov.au</a>
Registration of veterinarians to practice	<a href="http://www.vetboard.vic.gov.au">www.vetboard.vic.gov.au</a>

# Further information

Food safety is just one of many risks to the Australian dairy industry that is being effectively managed with a comprehensive set of controls at each point along the supply chain. This and other risks are discussed in more detail at [dairyaustralia.com.au](http://dairyaustralia.com.au)

## Animal health

DAWR is responsible for biosecurity of livestock imported into Australia. The National Biosecurity Committee (NBC) develops national approaches to the prevention and control of disease in the livestock industry. The national approaches are implemented by State Departments of Primary Industries/ Agriculture (DPI) in conjunction with Animal Health Australia.

On farms, the health of animals is monitored closely. Sick animals are treated and segregated from the main herd. Registered veterinarians diagnose and advise on appropriate treatment. The veterinarian is required to advise the DPIs if a notifiable disease is suspected or diagnosed.

## Control of pathogens

### Farm level

Food Safety Programs (FSPs) include measures to ensure the health of milking animals. Sick animals are separated from the herd during treatment. Cows with mastitis are clearly identified when treated and the milk is withheld from the farm bulk milk. Water supplies are monitored to ensure they are clean and suitable for use. Milking equipment is cleaned and sanitised after each milking, using chemicals registered by the APVMA.

### Manufacturer level

FSC Standard 4.2.4 requires milk to be heat treated to the equivalent of 72°C for 15 seconds, or more if the milk solids content is greater than normal milk. Milk must be cooled after the heat treatment to minimise the growth of pathogenic micro-organisms.

Under FSC 4.2.4, 'raw milk' cheeses can be made from milk with a lower heat treatment if additional requirements are met and the process has been properly validated.

## Farmer to manufacturer communication

If farmers have concerns about the quality of milk, they will contact their company to discuss their concerns. The company will arrange for an investigation to take place and for testing to be conducted before the milk is cleared as suitable for collection.

The manufacturer provides fast feedback to farmers on quality tests conducted by the manufacturer. If urgent corrective action is required, electronic communication is used or the farmer contacted personally. Company field service officers work with farmers to implement suitable corrective actions.

## Monitoring and surveillance programs

### Australian Milk Residue Analysis (AMRA) Survey

The AMRA Survey plays an important role in the Australian dairy industry by gathering and compiling information on the chemical residue status of Australian milk. This helps to verify that the quality assurance (QA) measures in place are managing potential food safety risks.

The purpose of the AMRA Survey is to provide a credible, independent, national monitoring system for potential agricultural and veterinary chemical residues, and environmental contaminants in Australian bovine milk. The program also provides an assurance that the dairy product export requirements of DAWR are being met.

Dairy Food Safety Victoria (DFSV) currently coordinates the Survey on behalf of DAWR.

The Survey is risk-based in its design, and reflective of agricultural practices in the Australian dairy industry. Sampling is predominantly random selection, however historical patterns of agricultural chemical and veterinary drug usage, as well as other relevant factors, are taken into consideration. In addition to random sampling, targeted sampling

is conducted when new residue risks are identified, or to collect data on potential emerging residue risks.

The European Union (EU) residue monitoring directives are used to provide a framework for the Survey.

Samples for the Survey are taken from bulk milk farm pick-up tankers. SRAs are responsible for investigating any samples with a positive antimicrobial or aflatoxin test result, or pesticide and anthelmintic residues detected at 50% or greater than the Maximum Residue Limits (MRLs). Similarly, residues of environmental contaminants are investigated when detected at 50% or greater than the maximum allowable level. All results are reported against the limits or levels established by FSANZ. The results of the AMRA Survey are published on the Dairy Australia website.

### Australian and international requirements for MRLs

Statutory Maximum Residue Limits (MRLs) for agricultural and veterinary chemicals and contaminants are established under the Food Standards Code (FSC).

FSANZ considers the MRLs recommended by the APVMA and international bodies such as the Codex Alimentarius Commission when establishing or reviewing MRLs for the Code.



## Product monitoring

All dairy manufacturers conduct extensive analytical programs to provide evidence to customers that their buying specifications have been achieved.

SRAs conduct product monitoring programs and pathogen prevention programs. State Health departments may also include dairy products in their food quality monitoring programs.

## Current industry audit requirements – Compliance checks

Government approved auditors conduct regular audits of FSPs through the dairy food supply chain. The audit frequency may be based upon past performance. DAWR and SRAs have implemented a national verification program to provide market assurance and to monitor compliance with FSC Standard 4.2.4. In addition to the food safety program, all companies have quality assurance programs which extend to their suppliers. Many companies, including those with ISO certification, use third party auditors to audit supplier compliance with these additional quality requirements.

Dairy company QA programs are frequently audited by major customers from Australia and overseas. These audits may include the farm sector as well as manufacturing, storage and distribution. Regulators from several importing countries also conduct compliance audits across the Australian dairy supply chain.

## Traceability of product across the supply chain

Comprehensive records are maintained across all sectors of the supply chain from farm to distributor to ensure traceability of animals, feed, milk, ingredients and products. Many of the records are stored electronically.

The FSC Standard 4.2.4 for dairy production and processing requires the farm, transport and manufacturing sectors to have systems in place to ensure traceability of all key components.

Audits by regulatory agencies and customers focus on traceability of product and major ingredients. The FSANZ Food Recall Protocol



emphasises the need for complete records of products, ingredients, packaging and manufacturing to enable effective and rapid recall of product if a food safety issue is identified.

Many dairy companies conduct regular checks on product traceability through their supply chain.

## Supporting programs

A range of programs from government and industry agencies supports the dairy industry food safety regulatory approach. Some of these programs include the National Livestock Identification System (NLIS) and Feedsafe and Foddercare programs operating in the fodder industries. All dairyfarmers are accredited under the beef industry's food safety program (Livestock Production Assurance – LPA). This program covers the food safety elements of on farm meat production.

National and regional research and extension programs have been developed by the dairy industry to support the farm sector. Some areas covered by these programs include:

- › Mastitis prevention and treatment - Countdown 2020
- › Reproduction and fertility - InCalf
- › Feeding and nutrition - Grains2Milk
- › Animal health and biosecurity
- › Animal welfare such as lameness and calf management
- › Genetic improvement
- › Milking efficiency, design of milking sheds and laneways - CowTime
- › Environmental issues – Dairying for Tomorrow, DairySAT, Fert\$mart

The manufacturing sector also undertakes targeted research and extension activities through CSIRO and the university sector.

Dairy Australia has established relationships with education institutions to develop and deliver vocational education and training for all sectors of the dairy industry.

There are many supporting programs underpinning dairy food safety. The programs listed above provide examples of programs but this is not an exhaustive list.

## Emerging food safety issues

The Australian dairy industry works in a co-regulatory partnership approach to identify any emerging food safety issues that may affect dairy product safety. This requires strong links with a wide range of Australian and international organisations such as FSANZ, APVMA, CSIRO, Codex Alimentarius Commission, World Animal Health Organisation (OIE) and the International Dairy Federation (IDF). This ensures the Australian industry is aware of potential issues in other countries and actions being taken by various agencies and scientific researchers to investigate measures to correct or manage the issue.

Food safety issues that have the potential to affect the future viability or reputation of the Australian dairy industry require an industry-wide approach, coordinated by Dairy Australia. Any response will be proportionate to the risk, and could include measures at one or several points along the dairy supply chain.

Both proactive and reactive measures are undertaken to ensure industry risk management plans remain appropriate for the risk and do provide safe food.

Proactive measures may include marketing research and/or commissioning specific research as appropriate to detect any emerging food safety issues and the adequacy of food safety plans to mitigate them. Reactive measures may include communication strategies to respond to potential food safety issues across the industry and to convey accurate information to customers and importing countries.



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