

**23 September 2009**  
**[16-09]**

# **PROPOSAL P1005**

## **PRIMARY PRODUCTION & PROCESSING**

### **STANDARD FOR MEAT & MEAT PRODUCTS**

#### **1<sup>st</sup> ASSESSMENT REPORT**

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### **Executive Summary**

#### **Purpose**

FSANZ has prepared this 1<sup>st</sup> Assessment Report for the public consultation process associated with the development of food safety measures for the Australian meat industry. It has been prepared in accordance with the principles of best practice regulation recommended by the Council of Australian Governments.

We have identified the issue that has prompted government action, the objectives of such action and possible options for achieving the objectives. We provide an overview of the industry sector, the proposed scope of the work, the food safety hazards and existing risk management measures in place. In proposing options, we have included a preliminary cost/benefit analysis.

To assist FSANZ undertake a comprehensive and informed impact analysis of the proposed options, we encourage affected parties to provide us with comment and information on the issues raised in the report.

We are assessing this Proposal as a Major Procedure under the FSANZ assessment framework.

#### **Introduction**

At the request of the Australia and New Zealand Food Regulation Ministerial Council, FSANZ is considering food safety throughout all parts of the food supply chain for all industry sectors. We are extending existing food safety provisions in the *Australia New Zealand Food Standards Code* (the Code) to primary production through primary production and processing standards (regulations). Development and application of primary production and processing standards to industry sectors is dependent on an analysis of the public health and safety risks, economic and social factors and current regulatory and industry practices. To date, FSANZ has developed primary production and processing standards for the seafood and dairy sectors and is currently assessing the development of standards for the poultry meat, egg, raw milk products and seed sprouts sectors.

The government guidelines on the development of standards for primary production and processing specify the objectives that FSANZ must have regard to when considering whether or not to develop standards<sup>1</sup>. These are:

- providing controls to protect public health and safety
- reducing the regulatory burden on the food sector, governments and consumers
- recognising the responsibility for food safety involves all levels of government and a variety of agencies within the governments.

The present work examines food safety management in the meat industry. Considerable amounts of data and information exist for the primary production and processing steps relating to potential hazards, control measures and industry and government schemes and programs for the major meat species. We have collated and reviewed this information on the range of factors<sup>2</sup> which occur in the meat supply chain<sup>3</sup> and identified hazards and control measures associated with those factors to identify gaps in food safety management and areas for specific risk assessment work.

We will examine all animal species (including equine species), but the work will be staged. Stage 1 (meat and meat products from farmed cattle, pigs, sheep and goats using extensive and intensive farming; harvested goats and rendered products for human consumption) is currently being considered under Proposal P1005. We intend to cover Stage 2 (meat and meat products from farmed minor meat species; ratite meat and egg and products thereof) and Stage 3 (meat and meat products from field-slaughtered animals) under separate Proposal/s at a later date.

We have established a Standard Development Committee (SDC) consisting of representatives from the industry, government regulators and consumers to assist and advise with this Proposal.

We expect to complete work on this Proposal (i.e. Stage 1 of the process) by December 2010.

## **The Issue**

The issue is whether the Code should include a primary production and processing standard for meat and meat products. The assessment of whether a standard is required involves an analysis of public health and safety risks, economic and social factors, and current regulatory and industry practices.

FSANZ's evaluation of the hazards and current management practices in Australia indicates that there are no unmanaged food safety risks for the major meat sectors (cattle, sheep, goats, pigs) i.e. controls are provided to protect public health and safety. The evaluation found no significant gaps that warrant further chemical or microbiological risk assessments.

In regard to primary production, industry schemes appear to adequately address safety and suitability. In addition to this, all States and Territories have legislation to:

- prevent and control diseases in livestock on-farm
- control welfare that also addresses hazards arising from injury and stress
- control the use of agricultural and veterinary chemicals.

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<sup>1</sup> Australia and New Zealand Food Regulation Ministerial Council *Overarching Policy Guideline on Primary Production and Processing Standards* [www.health.gov.au](http://www.health.gov.au)

<sup>2</sup> Factors include inputs, practices, environment, handling, animal health etc.

<sup>3</sup> The meat supply chain includes all activities at primary production and processing levels.

This legislation, developed by other government agencies, differs to varying degrees in States and Territories.

In regard to meat processing, there is currently regulation in all states and territories, however there is not a mechanism to review, update or change these regulatory requirements. The processing of meat and meat products for human consumption is currently regulated in all jurisdictions through the *Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption* (AS 4696-2007). AS 4696-2007 was prepared by the Meat Standards Committee and that Committee was responsible for maintaining the standard until it was disbanded in 2007. The future maintenance of the standard was transferred to a working group of the Primary Industries Ministerial Council which supports its inclusion within the national framework for setting food standards i.e. in the Code, to place standards for the meat processing sector under the same mechanisms for varying (i.e. under the *Food Standards Australia New Zealand Act 1991*) as standards applicable to other food industry sectors.

AS 4696-2007 is quite specific as to the procedures a processor must follow, or criteria it must meet, to comply with the outcomes. Whereas this approach to regulation may assist some processors, it does not offer flexibility for businesses that may wish to use other means to achieve safe and suitable meat. Such a degree of specification, rather than requiring an outcome, is not consistent with Ministerial guidance on standards in the Code for primary production and processing.

## **Objective**

The objective of government action is to ensure food safety is addressed throughout all parts of the meat supply chain (i.e. from paddock to plate) and, in the case of regulation, is within the government's food standard setting framework (to ensure mechanisms are available to ensure regulation remains relevant and effective over time) and meets the government guidelines.

## **Options**

In order to determine the most effective and efficient approach for achieving the objectives, FSANZ must consider various risk management options. These options include the *Status quo* (the situation if no action is taken) as a comparative measure against appropriate regulatory (government) and non-regulatory (industry) approaches. The options identified for Proposal P1005 are:

- **Option 1 – *Status quo*.**  
This retains the current situation i.e. FSANZ would not make any changes to the Code or propose any other regulatory changes. This current situation is a combination of self-regulation of meat safety (and current legislation in place managing animal disease control, animal welfare, animal traceability, use of agriculture and veterinary chemicals and environmental issues) for the primary production sector and regulation for the processing sector.
- **Option 2 – *Through-chain food safety management consisting of non-regulatory and regulatory elements*.**  
The current self-regulatory approach with primary production businesses implementing and self-enforcing (e.g. through quality assurance programs) industry guidelines or codes of practice aimed at improving the safety of their product would be supplemented with incentive and education programs to maximise industry adoption of these quality assurance programs and commitment to food safety practices.

For processing, the existing state and territory meat safety requirements, embodied in AS4696-2007, would be implemented through a national outcome-based standard, which is not overly-prescriptive, incorporated into the Code.

- *Option 3 – Through-chain food safety management consisting of regulatory elements for primary production and processing.*  
This approach involves the development of food regulatory measures in the Code which would apply to the primary production and processing sectors. A primary production and processing standard is a set of food safety obligations specifying requirements from animal production to the processing of meat animals, meat carcasses and meat products for human consumption. The standards may include the implementation of measures to control the food safety hazards and the responsibility to demonstrate compliance.

## **Impact Analysis**

The preferred option determined and recommended through the assessment of Proposal P1005 will be based on an analysis that considers:

- who is affected by the issues and the proposed solution
- evaluation of the potential hazards likely to occur in the industry
- risk management measures (control measures) identified and reviewed
- costs and benefits to affected parties of the interventions associated with each option.

FSANZ, with advice from the SDC and taking into account submissions made on this 1<sup>st</sup> Assessment Report, will undertake a detailed impact analysis of the costs and benefits to each affected party posed by each option. We will present this analysis in the 2<sup>nd</sup> Assessment Report, together with the preferred option.

## **Conclusion**

This 1<sup>st</sup> Assessment Report provides an opportunity for stakeholders to comment on and supply information to FSANZ in regard to Proposal P1005.

To assist FSANZ undertake a comprehensive impact analysis of the proposed options, we encourage interested individuals and organisations to provide comment and information on the issues raised in the report. We will consider the submissions during the second assessment stage of the Proposal, when we will propose a preferred option for implementing national through-chain food safety management for the meat industry.

## **Invitation for Submissions**

FSANZ invites public comment on this Report and the Supporting Documents based on regulation impact principles for the purpose of preparing an amendment to the Code for approval by the FSANZ Board.

Written submissions are invited from interested individuals and organisations to assist FSANZ in further considering this Proposal. Submissions should, where possible, address the objectives of FSANZ as set out in section 18 of the FSANZ Act. Information providing details of potential costs and benefits of the proposed change to the Code from stakeholders is highly desirable. Claims made in submissions should be supported wherever possible by referencing or including relevant studies, research findings, trials, surveys etc. Technical information should be in sufficient detail to allow independent scientific assessment.

The processes of FSANZ are open to public scrutiny, and any submissions received will ordinarily be placed on the public register of FSANZ and made available for inspection. If you wish any information contained in a submission to remain confidential to FSANZ, you should clearly identify the sensitive information, separate it from your submission and provide justification for treating it as confidential commercial material. Section 114 of the FSANZ Act requires FSANZ to treat in-confidence, trade secrets relating to food and any other information relating to food, the commercial value of which would be, or could reasonably be expected to be, destroyed or diminished by disclosure.

Submissions must be made in writing and should clearly be marked with the word 'Submission' and quote the correct project number and name. While FSANZ accepts submissions in hard copy to our offices, it is more convenient and quicker to receive submissions electronically through the FSANZ website using the Standards Development tab and then through Documents for Public Comment. Alternatively, you may email your submission directly to the Standards Management Officer at [submissions@foodstandards.gov.au](mailto:submissions@foodstandards.gov.au). There is no need to send a hard copy of your submission if you have submitted it by email or the FSANZ website. FSANZ endeavours to formally acknowledge receipt of submissions within 3 business days.

**DEADLINE FOR PUBLIC SUBMISSIONS: 6pm (Canberra time) 4 November 2009**

**SUBMISSIONS RECEIVED AFTER THIS DEADLINE WILL NOT BE CONSIDERED**

Submissions received after this date will only be considered if agreement for an extension has been given prior to this closing date. Agreement to an extension of time will only be given if extraordinary circumstances warrant an extension to the submission period. Any agreed extension will be notified on the FSANZ website and will apply to all submitters.

Questions relating to making submissions or the application process can be directed to the Standards Management Officer at [standards.management@foodstandards.gov.au](mailto:standards.management@foodstandards.gov.au).

If you are unable to submit your submission electronically, hard copy submissions may be sent to one of the following addresses:

**Food Standards Australia New Zealand  
PO Box 7186  
Canberra BC ACT 2610  
AUSTRALIA  
Tel (02) 6271 2222**

**Food Standards Australia New Zealand  
PO Box 10559  
The Terrace WELLINGTON 6036  
NEW ZEALAND  
Tel (04) 473 9942**

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## **SUPPORTING DOCUMENTS**

The following materials, which were used in the preparation of this Assessment Report, are available on the FSANZ website at <http://www.foodstandards.gov.au/standardsdevelopment/proposals/proposalp1005primary4220.cfm>:

- SD1. Assessment of Microbiological Hazards Associated with the Four Main Meat Species
- SD2. A Chemical Risk Profile of Meat and Meat Products
- SD3. Controls to Manage Identified Hazards
- SD4. Existing Regulatory and Industry Requirements in the Meat Industry
- SD5. Standard Development Committee members

## **Introduction**

### **1 Food safety management in Australia**

The current food safety management framework in Australia is preventive in nature; focusing on food safety outcomes rather than prescriptive requirements, recognising that the production of safe food can be achieved in a variety of ways appropriate to the particular business and identifying management options that are commensurate with public health risks.

The Australian Government has agreed to a nationally coordinated approach to food regulation within a single national framework for the development of all domestic food standards covering the entire food supply chain. Within this framework, Food Standards Australia New Zealand (FSANZ) is responsible for developing all domestic food standards, including primary production and processing standards. FSANZ has developed primary production and processing standards for the seafood and dairy sectors and is currently assessing the development of standards for the poultry meat, egg, raw milk products and seed sprouts sectors. Primary production and processing standards apply in Australia only.

The Government guidelines on the development of standards for primary production and processing specify the objectives that FSANZ must have regard to when considering whether or not to develop standards<sup>4</sup>. These are:

- providing controls to protect public health and safety
- reducing the regulatory burden on the food sector, governments and consumers
- recognising the responsibility for food safety involves all levels of government and a variety of agencies within the governments.

Within the national standards development framework, development and application of primary production and processing standards to industry sectors is dependent on an analysis of the public health and safety risks, economic and social factors and current regulatory and industry practices. FSANZ is currently undertaking this analysis on the meat industry, examining public health and safety risks attributable to meat and meat products in Australia, economic and social factors and current regulatory and industry practices.

A Standard Development Committee (SDC) consisting of representatives from the industry, government regulators and consumers has been established by FSANZ to assist and advise with this Proposal. This process should be completed by December 2010.

### **2 Meat and meat products**

Australia's current system of ensuring the safety and suitability of meat products has developed in response to a variety of challenges confronting the industry, including market access, animal health, animal welfare, bio-security and food safety issues. There is a considerable amount of data and information currently available for the primary production and processing steps relating to potential hazards, control measures and industry and government schemes and programs for the major meat species.

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<sup>4</sup> Australia and New Zealand Food Regulation Ministerial Council *Overarching Policy Guideline on Primary Production and Processing Standards*  
<http://www.foodstandards.gov.au/standardsdevelopment/ministerialcouncilpolicyguidelines/policyguidelinesonpr4129.cfm>



In examining the meat industry, the first task was to establish the scope of the products to include in the various stages of work and the main elements of the production chains for the different species. Subsequently, FSANZ has collated and reviewed information on the range of factors<sup>5</sup> which occur in the meat supply chain<sup>6</sup> and has identified hazards and control measures associated with that factor in order to identify gaps in food safety management and areas for specific risk assessment work.

This First Assessment Report describes the work that has been carried out in the initial (referred to as the First) stage of the assessment.

## 2.1 Scope

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The process of examining food safety management in the meat industry includes an examination of the entire meat supply chain. The potential scope of the work is extensive as it includes:

- a large number of animal species
- different husbandry systems
- various industry sizes and therefore sophistication of food safety management systems
- derivative food commodities such as rendered products and natural casings
- various production and processing activities throughout the food supply chain
- inclusion of products not captured in other primary productions and processing standards such as ratite meat and eggs and products thereof.

In deciding how to progress this work, FSANZ sought advice from the Standard Development Committee. Stage 1, covered under this Proposal (P1005), will be progressed ahead of Stage 2 and Stage 3.

Stage	Products
Stage 1	Meat and meat products (including natural casings) from:  Farmed major meat species (farmed cattle, pigs, sheep and goats) using extensive and intensive farming; Harvested goats (goats sourced from feral populations); and Rendered products for human consumption.
Stage 2	Meat and meat products from:  Farmed minor meat species (all other meats included in the definition of meat and meat products not listed above as a major meat species) using extensive and intensive farming; and Ratite meat and egg and products thereof.
Stage 3	Meat and meat products from field-slaughtered animals

This Proposal will also examine rendered products for human consumption and natural casings. Rendering is a by-products industry providing additional value from the animal in addition to the value of the meat. This industry enables those parts of meat animals that are not used for human consumption as meat or offal to be used for human consumption (tallow, oils), for animal food (tallow, pet food, meat and bone meal etc) or for non-food industries (pharmaceuticals).

<sup>5</sup> Factors include inputs, practices, environment, handling, animal health etc.

<sup>6</sup> The meat supply chain includes all activities at primary production and processing levels.

Rendering is the process of heat treating these raw materials to liberate the fat from tissues and to separate fat from other solid tissues<sup>7</sup>. The resultant products may be from mixed species or may be single-species products and may be further refined depending on their intended use.

Natural casings, made from the sub-mucosal layer of intestines obtained from 'green runners' (intestines emptied of ingesta) after cleaning, may be used for sausages and some smallgoods. The intestines are obtained from sheep, goats, pigs and cattle.

At First Assessment, these products have been considered as meat products and not examined specifically. A detailed consideration will be made at Second Assessment.

The following areas will not be considered in this Proposal:

- cloned or genetically modified animals as food safety aspects will be the same regardless of how the animal was scientifically manipulated
- rendered product not for human use
- meat produced for pet food.

## **2.2 The Production Chain**

The meat supply chain consists of:

- production of animals (primary production)
- transport to saleyards, between properties and to the abattoir (primary production)
- holding the animals at the saleyards (primary production)
- processing – lairage, slaughter and dressing (and boning) (processing)
- further processing into products such as natural casings and rendered products (processing).

FSANZ has conducted a review of the inputs and key stages of the meat supply chain for the four main meat species produced in Australia (cattle, sheep, goats and pigs). The production stages to be considered in this process are outlined below. Regardless of the production method utilised, once the animal is received at the abattoir gate and enters lairage, slaughtering operations are undertaken using very similar processing steps.

Minor differences may exist depending on the plant's capabilities and design but the main steps remain the same. Others factors which may influence abattoir operations include: single species or multiple species plant, age of plant, chain speed, export or domestic market and different slaughtering practices.

Further information on the industry and production processes is provided in Supporting Document 1.

### *2.2.1 Cattle Production and Processing*

Traditionally, cattle production in Australia has been based upon extensive farming systems, which range from the harsh, dry climates of the north to the cooler, wetter, green pastures of southern Australia.

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<sup>7</sup> Definition from Australian Renderers' Association Code of Practice for the Hygienic Rendering of Animal Products 2007

Significant differences exist between climatic and geographical conditions, and on the species of animal grown and the production practices employed. Furthermore, beef production systems are evolving from extensive to semi-intensive and intensive units across Australia. Producers are switching to cow-calf operations, producing young cattle for feedlots or the live export trade and reducing production of grass fed animals.

The major inputs during production are feed and water, with supplementary feeding at certain times of the year or during drought. Importantly, there has been an increasing trend in recent years towards finishing cattle on feedlots. In 2001, approximately 26% of beef was finished in feedlots in south-east Queensland and New South Wales. Feedlots provide some advantages over traditional extensive cattle production, including enhanced control over quality and attributes of the carcass.

Until receipt at the feedlot yards, cattle finished on feedlots are initially subjected to the same production methods and inputs as extensively reared cattle. Once in the feedlot environment, cattle are more contained, restricted in their movements, are at higher stocking rates and exposed to greater environmental influences (*i.e.* environmental conditions including heat).

Lower slaughter ages are adopted for specialised beef systems. For example calves range from 'bobby' calves slaughtered within a few days of birth, to specially fed heavier veal calves. Bobby calves present special needs, as they are quickly separated from the cow and artificially fed, then transported on the fifth day to the slaughterhouse. Cull cows and live animals rejected from export disposition are other sub-sections of the beef industry in Australia.

The key steps in the production and processing of cattle are summarised in Figure 1.

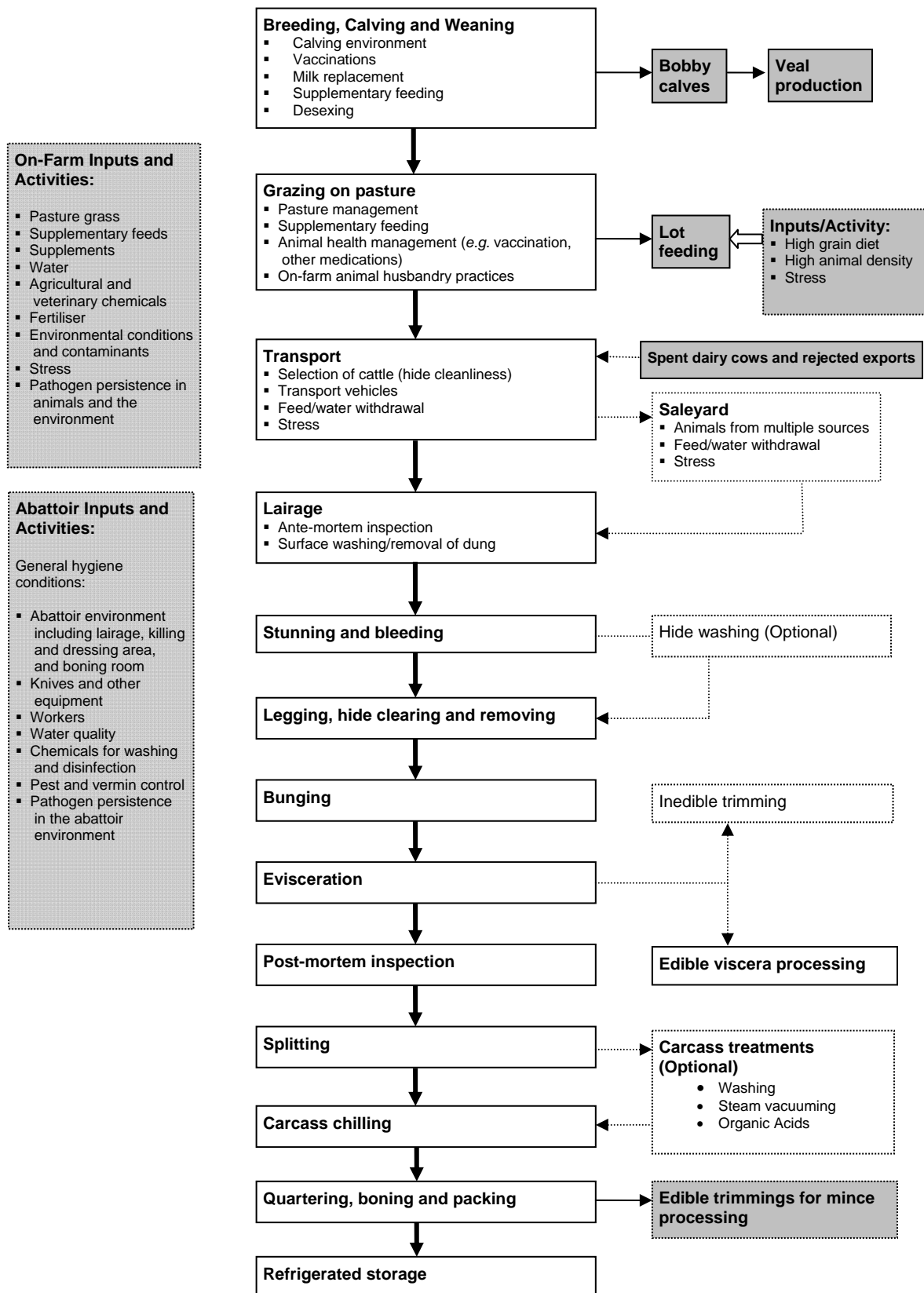


Figure 1: Major steps in cattle production and processing

### 2.2.1 Sheep Production and Processing

The prime lamb industry is concentrated in New South Wales, Western Australia and Victoria with the main outputs being lamb meat and mutton. While large volumes of industry outputs are exported, including live sheep exports to the Middle East, Australians continue to consume large volumes of lamb meat.

Primary production of lambs and sheep is predominantly based on extensive production systems. The most efficient way to produce lambs is on quality pasture with at least 30% legume content ideal. The major inputs during primary production are feed and water, with some supplement feeding undertaken to achieve target growth rates. Cereal grains tend to be the most cost-effective form of feed supplementation.

Importantly, there is also an increasing trend towards finishing lambs in feedlot environments. Prior to receipt at the feedlot yards, lambs finished on feedlots are initially subjected to the same production methods and inputs as extensively reared animals. Once in the feedlot environment, lambs are more contained, restricted in their movements, are at higher stocking rates and exposed to greater environmental influences (*i.e.* environmental conditions including heat).

Animals with long coats and heavy soiling should be 'crutched' (fleece removed around the rear end and pizzle for wethers when appropriate) before slaughter.

The majority of sheep are processed in medium and large abattoirs, some of which slaughter up to 10,000 animals/day. Sheep are processed by either conventional or inverted dressing. Both methods are carried out on sheep which are suspended from a moving chain. Chain speeds vary according to stock being processed and typically range from 350-750 bodies per hour.

The key steps in the production and processing of sheep are summarised in Figure 2.

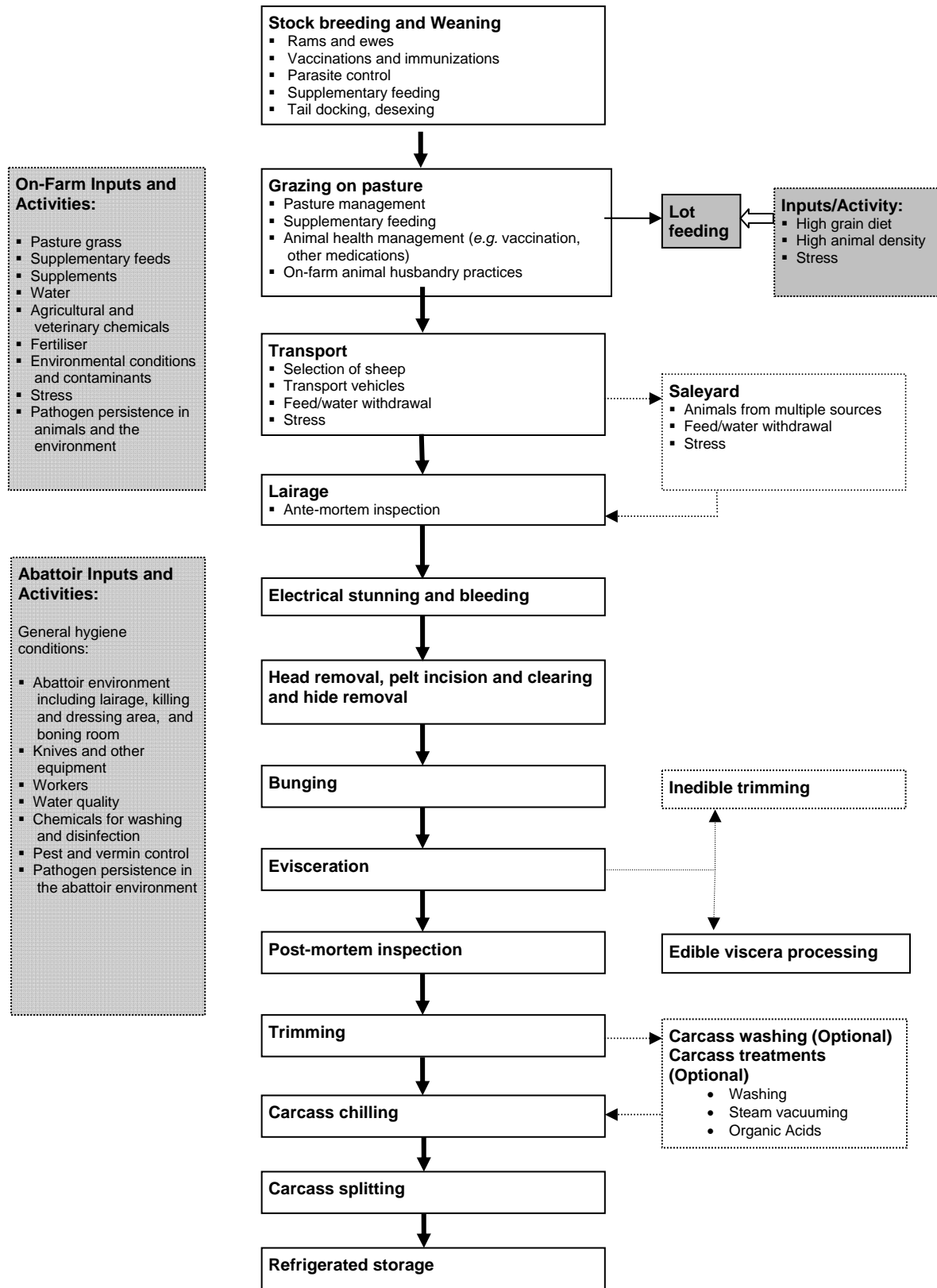


Figure 2: Major steps in sheep production and processing

### 2.2.3 *Goat Production and Processing*

Goat meat production in Australia involves a combination of strategies: the harvesting of rangeland goats; the breeding and production from rangeland goats; and the processing of farmed goats. The majority of goat meat is derived from rangeland goat populations, and these animals provide landholders with a source of goats suitable for cross-breeding with the main meat species such as Boer goats.

The term 'rangeland' describes goats that roam and are raised on natural grasslands, shrub lands, deserts and alpine areas.

The majority of goats slaughtered in Australia are derived from harvesting operations. Feral goats are present over much of Australia, with the largest numbers found in the semi-arid pastoral areas of Western Australia, western New South Wales, southern South Australia, and central and south-western Queensland.

Pre-slaughter management can have a significant impact on the marketability of goat meat. It involves management practices at the point of capture or on-farm, through to slaughter. Mustering, drafting, loading, trucking, handling, noise, strange surroundings and mixing with other stock are all associated with the marketing process, and poor management of these pre-slaughter operations can reduce liveweights and carcass weights; impact on meat yields, meat quality and safety; and increase mortalities, injuries and condemnations.

The key steps in the production and processing of goats are summarised in Figure 3.

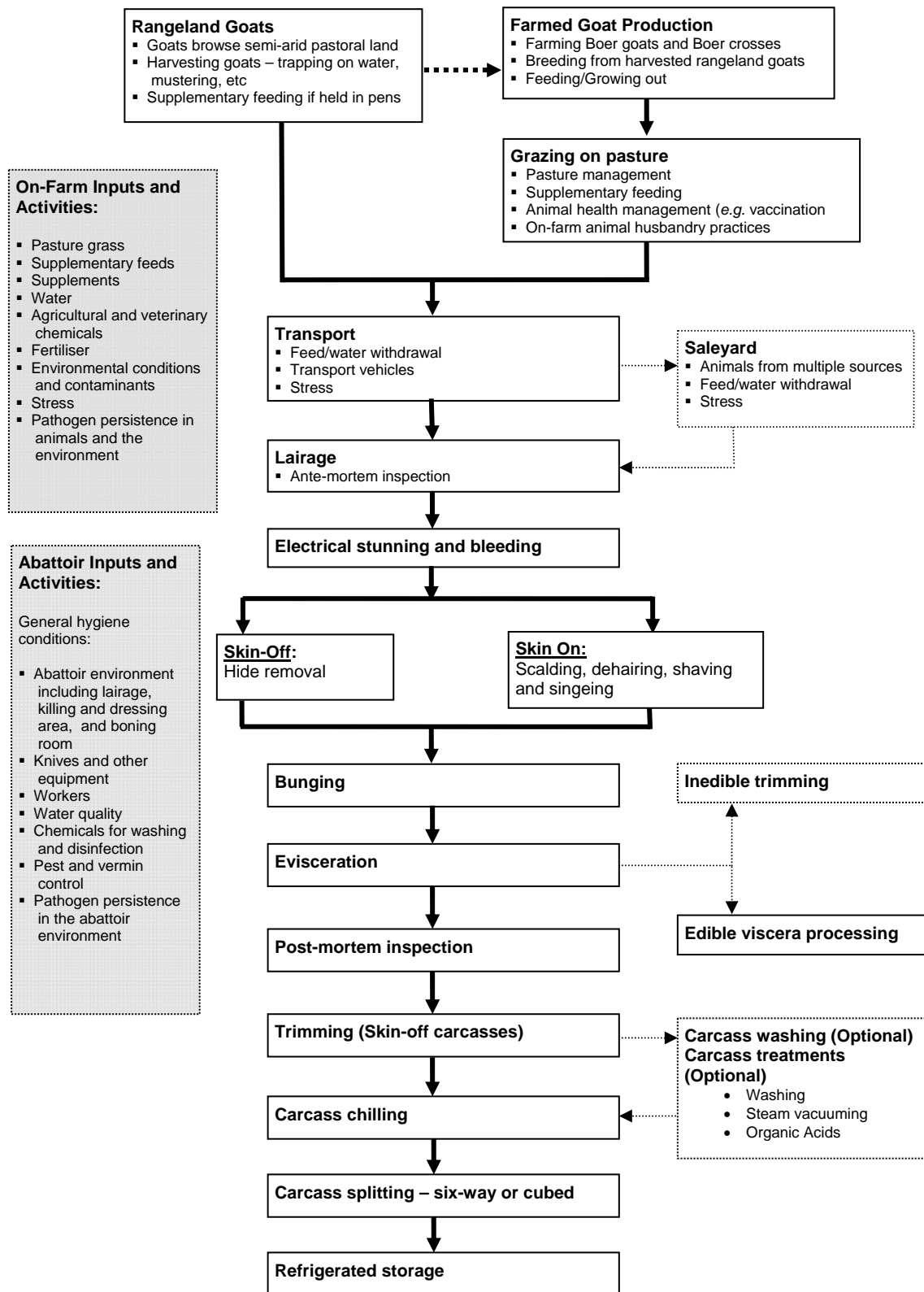


Figure 3: Major steps in goat harvesting, production and processing



#### 2.2.4 *Pig Production and Processing*

Pork production occurs predominantly in the grain belts of Australia reflecting the reliance on grain as the major source of pig feed.

Pig production systems range from extensive outdoor farms to intensive operations where pigs are housed in multiple-story production units. The vast majority of pigs are intensively reared, using all-in all-out production strategies. These all-in all-out systems use batch farrowing methods, where groups of pigs are born within a 48-hour period once every four or five weeks, making grouped movement and marketing of pigs more easily managed. Such systems make extensive use of artificial insemination.

Recently there has been increasing use of off-site grow-out facilities, rather than single site farrow-to-finish operations. This minimises the transfer of infectious diseases from breeders to market pigs and also reduces stress. Under these production arrangements, there has been greater use of lower-cost 'shelter' facilities that group-house pigs on bedding (straw or rice hulls) rather than traditional sheds.

There is some limited use of outdoor production practiced with sows and litters in southern Australia, although grower pigs are usually brought into sheds or shelters after weaning.

Once grown to market size, pigs are taken to abattoirs for processing. Most pigs in Australia are slaughtered in dedicated pig processing facilities. The key steps in the production and processing of pigs are summarised in Figure 4.

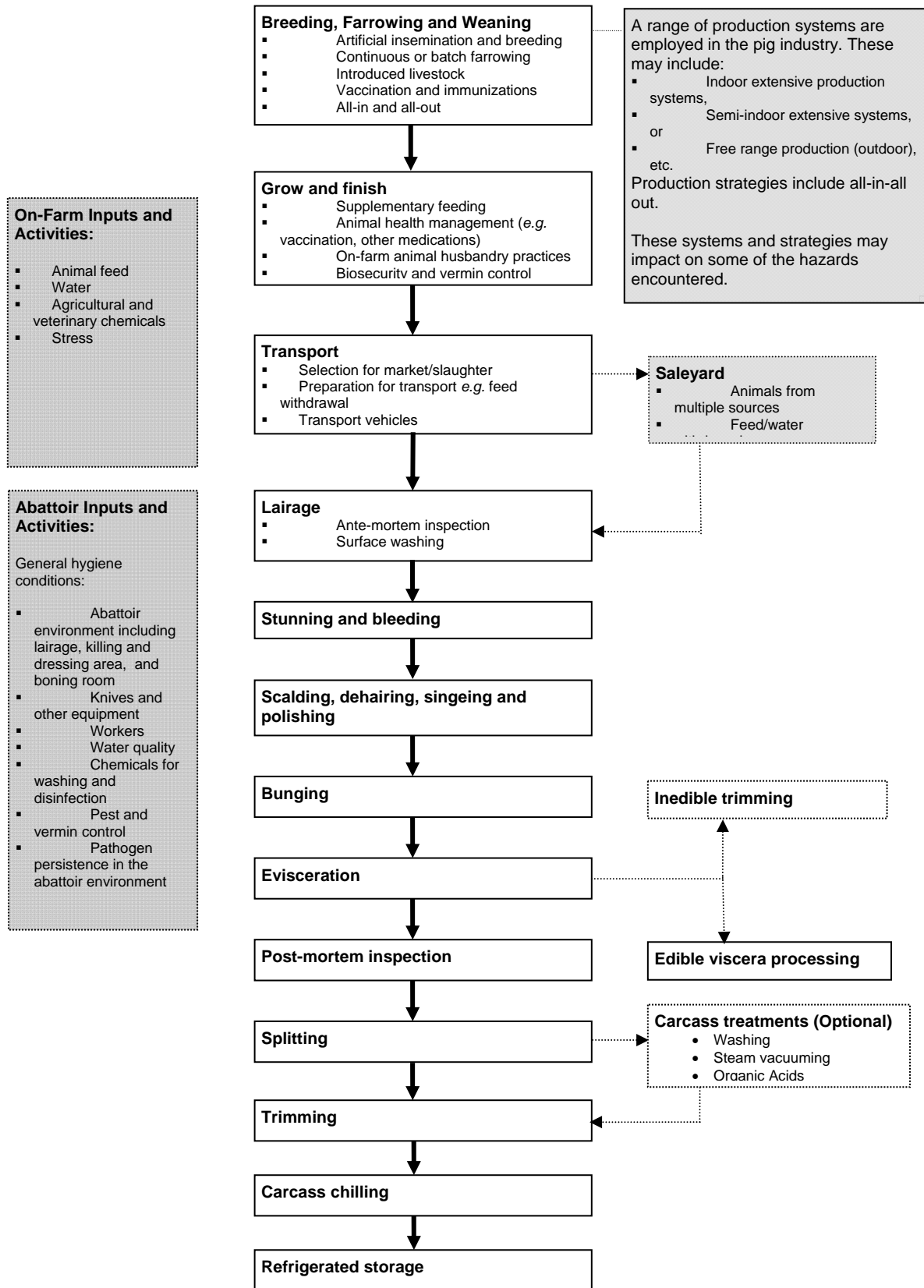


Figure 4: Major steps in pig production and processing

## The Issue

FSANZ is currently examining food safety management in the meat industry. The issue is whether the Code should include a primary production and processing standard for meat and meat products. The assessment of whether a standard is required involves an analysis of public health and safety risks, economic and social factors, and current regulatory and industry practices. The outcomes of this analysis are described in sections 3 and 4.

### 3. Potential Hazards and their Control

#### 3.1 Microbiological hazards associated with meat

FSANZ's "Assessment of Microbiological Hazards Associated with the Four Main Meat Species" identified hazards that may be found in meat, where in the meat supply chain they may be introduced into the animal or the meat and where in the supply chain they may be controlled. This report is at Supporting Document 1.

The report identifies hazards (both recognised and potential) that may be associated with meat from the four main meat species (cattle, sheep, goats and pigs), and lists pathogenic microorganisms that, if unmanaged, present or may potentially present a risk to public health. The report does not document the severity of illness presented by these hazards, nor does it determine the likelihood of their occurrence in the final meat product or characterise the risk they may present. The report does however review meat associated food-borne disease evidence in Australia.

A range of potential hazards have been identified along the production and primary processing chain. Limited, if any, prevalence and incidence data is available for these hazards in meat. Given the lack of epidemiological evidence also available, it would suggest that the likelihood of these hazards causing illness from consumption of meat is quite low. The principal microbiological hazards associated with the four main animal species at the production and primary processing stages are listed below:

<b>Animal</b>	<b>Primary Production Stage</b>	<b>Primary Processing Stage</b>
Cattle	Pathogenic <i>Escherichia coli</i> , <i>Salmonella</i> spp., <i>Campylobacter jejuni</i> and <i>C. coli</i> ,	<i>Clostridium perfringens</i> , <i>Staphylococcus aureus</i>
Sheep	Pathogenic <i>Escherichia coli</i> and <i>Salmonella</i> spp.	<i>Clostridium perfringens</i> , <i>Staphylococcus aureus</i>
Goats	Pathogenic <i>Escherichia coli</i> and <i>Salmonella</i> spp.	
Pigs	<i>Salmonella</i> spp., <i>Yersinia enterocolitica</i> , <i>Toxoplasma gondii</i> , <i>Campylobacter jejuni</i> and <i>C. coli</i> .	<i>Clostridium perfringens</i> , <i>Staphylococcus aureus</i>

During the animal production phase, there are a number of key inputs and activities which influence the manner in which hazards may be introduced or amplified. They are summarised below:

Input and/ or activity	Comment	Step in chain where control may be applied
Animal Health	Pathogens may exist in the animal with or without exhibiting clinical signs	<p>Animals with clinical signs of disease or illness are identified and managed at:</p> <ul style="list-style-type: none"> <li>• Dispatch from farm/saleyard</li> <li>• Arrival at abattoir</li> <li>• Ante-mortem inspection</li> </ul> <p>Without clinical signs, potential hazards may be identified and managed at:</p> <ul style="list-style-type: none"> <li>• Slaughter to minimise contamination from external surfaces or internal spillage</li> <li>• Post-mortem inspection</li> </ul>
Feed	Feed has the potential to introduce pathogens into the gut or environment	<ul style="list-style-type: none"> <li>• Management of input of manure and fertiliser onto pasture</li> <li>• Control supplements</li> <li>• Oversight of ensilage operations</li> </ul>
Water	Contributes to internal and external contamination	Access of animals to suitable drinking water.
Stress	Animals may be more susceptible to infection and/or have increased faecal shedding. Pathogens colonise the gut	<p>Minimise exposure of animals to stress during:</p> <ul style="list-style-type: none"> <li>• Transport</li> <li>• Lairage</li> <li>• Abattoir/Slaughtering operations to prevent carcass contamination</li> </ul>
Environment and management of biosecurity	Pathogens may contaminate external surfaces of animal, or can lead to ingestion or infection of the animal	<ul style="list-style-type: none"> <li>• Pasture management</li> <li>• Vermin and pest control</li> <li>• Good agricultural practices</li> <li>• Sound animal husbandry</li> </ul>

During the primary processing stage there are two main sources of contamination to the meat carcass:

- external contamination: from the animal (hide, skin, fleece, hooves, faeces, etc) and the environment (including personnel)
- internal contamination: during evisceration and dressing operations and where the spillage of gastro-intestinal tract contents occurs.

The burden of illness that may be attributed to meat and meat products in Australia was assessed by evaluating OzFoodNet outbreak data. Sixty-six outbreaks of food-borne illness associated with meat products in Australia were reported to OzFoodNet between January 2003 and June 2008. While the data demonstrates the occurrence of outbreaks involving meat, they are usually due to dishes containing a meat product, and attribution to a specific meat source is either limited or difficult to establish with any confidence. Where meat products have been implicated in food-borne illness, the causative microorganisms were *Salmonella* serotypes, *Clostridium perfringens* and *Staphylococcus aureus*, with undercooking and temperature abuse post-cooking the major contributing factors.

Although risk was not specifically evaluated in this assessment, a significant body of evidence exists for the Australian domestic meat industry indicating that domestically-reared red meat (cattle, sheep, and goats) and pigs present a low risk to public health.

Also evidenced is that industry personnel are mature in their knowledge and management of food safety risks.

Further, considerable data is available to support the safety of meat and meat products produced from beef, sheep and pork in Australia. The evidence suggests that Australian meat from these species has a low microbial load and generally low prevalence of pathogens. Many of the pathogens listed in this assessment occur infrequently or not at all on Australian meat.

### **3.2 Chemical hazards associated with meat**

- FSANZ also undertook a chemical risk profile of meat and meat products to:
- identify the chemicals associated with the Australian meat supply chain which may potentially impact on public health and safety
- assess the potential public health and safety risks associated with these chemicals, in the context of the current regulatory system
- identify any areas in the current regulatory system that require further attention in relation to addressing potential public health and safety risks associated with chemicals in meat and meat products.

The chemical risk profile identified and examined where chemicals may enter the meat supply chain from meat production through to retail of meat produce. It also considered the relevant inputs into the meat primary production and processing chain. The risk profile is at Supporting Document 2.

The risk profile concluded that there are extensive regulatory and non-regulatory measures in place to ensure that chemicals used or present in meat and meat products present a very low public health and safety risk. The regulations and control measures currently in place along the meat primary production chain have resulted in minimal public health and safety concerns regarding the use or presence of chemicals in meat and meat products. The extensive monitoring of chemical residues in meat over many years has demonstrated a high level of compliance with the regulations.

The chemical risk profile has also identified a number of areas where further research or monitoring would assist in providing further reassurance that the public health and safety risk is low.

Continuation of the current management practices, particularly monitoring programs for chemicals along the primary production chain, will ensure that the meat industry continues to maintain a high standard of public health and safety.

### **3.3 Controls to manage hazards**

The controls that prevent, reduce or eliminate hazards in meat have been assessed domestically and internationally by a number of countries and through forums such as the Codex Alimentarius Commission (Codex)<sup>8</sup>.

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<sup>8</sup> The Codex Alimentarius Commission is the international body that develops food standards, guidelines and related texts such as codes of practice under the Joint FAO/WHO Food Standards Programme.

The following information is drawn from such sources including the Guide to Good Practices in the Meat Industry (FAO 2004), Codex Code of Hygienic Practice for Meat<sup>9</sup>, Food Safety Controls in the Australian Meat Industry FSANZ 2008<sup>10</sup>, Codes of Practice for the Welfare of Animals and other information.

### 3.3.1 On-farm (primary production)

The objective of production (from a food safety perspective) is to ensure that animals are healthy and are not presenting symptoms of disease, or conditions, or to the extent practicable, do not carry pathogens that affect the safety and suitability<sup>11</sup> of meat and meat products. Practices to minimise the presence of hazards potentially arising from various inputs are detailed in Table 1.

**Table 1: Inputs and general control measures**

Input	General control measures
Pasture	Minimise the risk of infection by good pasture management and good grazing management particularly following treatment of pasture with manures or slurries for example, by observing adequate periods between grazing rotations and before allowing animals to graze on treated pasture. Ensure that pasture is not overstocked.
Feed including manufactured feed, licks and supplements and fodder (including silage)	Produce animal feeds, licks and supplements in accordance with good practice and ensure storage conditions prevent access by vermin and domestic animals. Source feed from reputable manufacturers and follow manufacturer's instructions as to storage and use. Producers access feed that is certified as to the microbiological and chemical status) and fit for intended use. Manage feed availability and type and also changes in feed.
Water	Obtain drinking water from sources that are protected from seepage from drains, sewerage, septic systems, manure pits and other sources of contamination. Ensure water is of a microbiological quality that minimises animal contamination and if there is doubt, the water should be treated.
Veterinary and agricultural chemicals (including in feed and water)	Ensure that all veterinary medicines and other chemical used in animal husbandry are legal to use and are used within technical recommendations. Apply pesticides, weed control chemicals and fertilisers only when necessary and in accordance with manufacturers' instructions and good agricultural practice. Strictly adhere to after-treatment withdrawal periods from feed, medicines, pasture treatments etc. Do not graze animals where environmental chemical contamination has occurred for example, water sources affected by mining. Do not allow animals to access stored chemicals.
The environment – premises and equipment and bedding	Design, construct and maintain premises and equipment so as to facilitate cleaning and maintain them in a clean condition (in accordance with their use). Control pests and domestic animals.

<sup>9</sup> Codex Alimentarius Commission, *Code of Hygienic Practice for Meat* CAC/RCP 58-2005

<sup>10</sup> FSANZ, *Food Safety Controls in the Australian Meat Industry* 2008. Report prepared for FSANZ by SafeFood Queensland 2008 (unpublished)

<sup>11</sup> The definitions of unsafe and unsuitable are important in relation to meat. The term 'unsafe and unsuitable' covers hazards that could affect the health of consumers and meat affected by diseases and conditions that consumers prefer not to eat but which do not necessarily cause them illness. The definition of unsuitable also covers levels of contaminants and residues which, while not unsafe, are in excess of the limits in the Code (Standard 3.1.1)

<b>Input</b>	<b>General control measures</b>
Stress <sup>12</sup>	Handle animals in ways that cause the least disturbance, stress and to avoid injury

### 3.3.2 Transport (primary production)

In transporting animals from the farms to other properties, saleyards or abattoir, the aim is to ensure that the animals arrives in as good a condition as when they left to prevent any disease, injury or other issues that could affect the meat. Planning transport must address the complex issues of managing stress and transport fatigue which may result from loading/unloading and the long distances and therefore journey times necessary in Australia.

Control measures implemented prior to travel include:

- mustering and handling animals so that they are not unduly stressed
- ensuring the animals are fit to travel
- ensuring animals are as clean as practicable
- ensuring feed curfews do not have unintentional adverse effects on meat safety
- loading onto clean vehicles
- not overcrowding the vehicle

The transporter can contribute to managing hazards by:

- ensuring vehicles are clean prior to loading
- ensuring animals are not unduly stressed due to feed and water deprivation
- mixing with unfamiliar animals or because of heat or distance
- complying with rest stop requirements and any associated loading and unloading, feed and water provision
- careful loading and unloading and driving manner to avoid injury

### 3.3.3 Saleyards (primary production)

Saleyards receive animals from large areas and disperse them over large distances. The average number of animals passing through saleyards in an average year is 19 million sheep and 6 million cattle. Practices to control hazards are detailed in Table 2.

**Table 2: Control of hazards at the saleyard**

<b>Source of hazard</b>	<b>Control</b>
Inputs - pathogens and chemical contaminants in feed and water and use of veterinary chemicals	Ensuring water is of appropriate quality – water must be available and at all times in paddocks, yards and pens (with some minor exceptions) in line with industry good practice/welfare. Ensuring feed is 'of known status' and is free of contaminants – feed is likely to be available if the animals are remaining more than 24 hours in line with industry good practice/welfare. Controlling use of chemicals.

<sup>12</sup> Stress may impact on the animals natural defence mechanisms resulting in increased susceptibility to pathogens, increased shedding in faeces and also distress the animal making it more likely to fall or panic and be injured.

Source of hazard	Control
Transfer of pathogens due to mixing animals from multiple sources	Keeping yards and pens clean, segregating diseased or injured animals <sup>13</sup> , discouraging supply of dirty stock. Ensuring that effluent and dead animals are disposed of appropriately.
Injuries that could affect safety and suitability	Ensuring design and construction are such that likelihood of injuries is minimised.
Stress that could affect safety and suitability – e.g. herding with unfamiliar animals in unfamiliar surroundings	Managing the operations of the saleyard to ensure the well-being of the animals is maintained.

### 3.3.4 Processing

As indicated in Section 2.2, 'processing' is from the abattoir gate to the production of meat products excluding production of meat products that are ready-to-eat i.e. It covers slaughter, dressing, boning, packing and production of non ready-to-eat products such as natural casings.

The main controls that can be implemented at processing are:

- ensuring the condition (or fitness) of animals is in accordance with specified criteria as to the animals health and exposure to chemicals to the extent that safety and suitability can be assessed visually in the live animal and from documentation accompanying the animal
- preventing hazards that could occur while animals are in the lairage such as injury and stress
- ensuring hygiene during the slaughter and dressing process
- disposing of meat that has been assessed (mainly visually) as not fit for human consumption for purposes other than human consumption.

### 3.3.5 Supporting Measures

In addition to the practices described above, there are a number of supporting measures to enable businesses to control hazards more effectively. These measures include:

- ensuring that personnel involved in food production have skills and knowledge in food safety to carry out the work they do
- being able to identify its products to ensure rapid and effective recall and investigate the cause of any food safety problem
- being responsible for ensuring that hazards specific to its business (each business operates slightly differently) are identified and controlled

<sup>13</sup> Some animals are sold at the saleyard under the 'vendor's risk' approach – the buyer purchases the animals but the risk is with the seller if the animals are condemned i.e. the purchase price will be adjusted if the animal or carcass is downgraded or condemned at the abattoir. A consequence of this is that some animals (potentially) are sent to the saleyard and then for slaughter when they are not fit for slaughter.



- demonstrating control to others either as part of an industry certification system or to provide assurance to government.

#### 3.3.5.1 Skills and knowledge

The Codex Code of Hygienic Practice for Meat states that adequate training of competent personnel is of fundamental importance in the production of meat that is safe and suitable for human consumption.

It also states that training specified by the competent authority should be:

- appropriate to the activities and operations
- proportional to the potential of the particular meat hygiene activity to impact on food-borne risks to human health
- properly documented, including records of training programme delivery;
- verified as appropriate
- subject to recognition by the competent authority where delivered by third parties

The Codex Code also offers guidance on achieving the above outcomes including that training programmes should:

- provide personnel with the training, knowledge, skills and ability to carry out specified meat hygiene tasks e.g. post-mortem inspection, verification of statistical process control and HACCP
- provide practical training and arrange for formal testing of personnel
- ensure that supervisors are skilled
- recognise professional qualifications
- provide for continuing education

#### 3.3.5.2 Traceability

A key safety management measure is traceability or product tracing. Australia supports the concept of traceability as a tool to improve food safety control across the supply chain. Traceability is the ability to, and the mechanisms designed for, the tracing of an animal product along all steps in the production chain back to the farm from which the product was derived<sup>14</sup>. Codex defines traceability/product tracing as the ability to follow the movement of a food through a specified stage(s) of production, processing and distribution<sup>15</sup>.

The purpose of traceability is two-fold; to protect consumers from products that are injurious to health by being able to identify the products and withdraw or recall them from sale, and also to trace the products back through the chain to identify where the food safety problem occurred in order to prevent its re-occurrence.

Principles applying to primary production, in the Codex Code of Hygienic Practice for Meat, state that animal identification practices should allow trace-back to the place of origin to the extent practicable, to allow regulatory investigation where necessary. It further adds that only appropriately identified animals should be presented for slaughter. The Codex Code also states that provision of relevant information on animals intended for slaughter facilitates application of risk-based meat hygiene programs. This then allows inspection procedures to be tailor made to the spectrum and prevalence of diseases and defects in the particular animal population.

<sup>14</sup> *Good Practices for the Meat Industry* FAO 2004

<sup>15</sup> Codex Alimentarius Commission, *Principles for traceability/product tracing as a tool within a food inspection and certification system* CAC/GL 60-2006

### 3.3.5.3 Quality assurance/food safety systems/approved arrangements

Development and implementation of quality assurance/food safety systems/approved arrangements by businesses reflect a proactive approach to managing safety. The approach is based on the principle that the business, by acknowledging that food safety is an essential part of food production and examining its activities to establish where hazards could arise, will take more active steps to manage hazards. Without such a program, a business could take a reactive approach and wait for hazards to occur before deciding how to control them. By this time, the food may have caused a problem and it may be too late to recall it.

Quality assurance for animal production is included in industry accreditation schemes. Quality assurance programs based on the HACCP approach have been introduced by the Australian Quarantine and Inspection Service (AQIS) into the meat export processing sector since the 1990s and are required for the operation of domestic abattoirs by State and Territory governments.

## **4. Existing Requirements<sup>16</sup>**

### **4.1 On-farm (Primary Production)<sup>17</sup>**

#### *4.1.1 Regulatory*

##### 4.1.1.1 Australia New Zealand Food Standards Code

There are no requirements in the Code that include the control measures on-farm for production of meat animals but there are requirements that apply to dairy cows through the measures to ensure safe dairy products under Standard 4.2.4 – Primary Production and Processing Standard for Dairy Products. Under this Standard, a dairy primary production business must have a food safety program which includes control measures that ensures that milk for human consumption is only sourced from healthy cows.

The current Production and Processing Standard for Meat in Chapter 4 (Standard 4.2.3) includes requirements for production of ready-to-eat meat only and does not include primary production requirements.

##### 4.1.1.2 State and Territory

The Food Acts in the States and Territories contain offences for the production of unsafe and unsuitable food, require compliance with the Code and contain provisions to improve safety and manage non-compliance. However, generally speaking, these Acts are not designed to manage hazards that potentially occur in live animals. Although primary production businesses are not exempt from the general provisions to produce safe food ('food' includes live animals intended for food), primary production is exempt from certain provisions for example, improvement notices, registration and approval of premises and auditing requirements. Also, for primary production, powers of officers are limited to reactive situations i.e. where an offence is likely to have occurred or enforcing emergency orders<sup>18</sup>.

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<sup>16</sup> A more detailed summary of existing regulatory and non-regulatory measures is provided at SD 4.

<sup>17</sup> Note that traceability is covered under Section 4.6

<sup>18</sup> The provisions in the individual States and Territories Acts and regulations differ and this is a general overview from the Model Food Provisions on which the State legislation is based. There are also differences in the States as to which Ministers and their departments have jurisdiction over the various sectors of the meat industry.

All States and Territories have legislation to control diseased stock including notification of diseases, and quarantine and restrictions on moving diseased stock. Additionally, there are requirements controlling feed for stock. The aim of the legislation is maintenance and improvement of animals' health and address matters that affect human health. Table 3 lists State and Territory legislation that impacts on the production of meat animals. An analysis of the requirements to manage hazards included in legislation is provided in Table 2 in Supporting Document 4.

**Table 3: State and Territory legislation to manage microbiological hazards on-farm**

<b>State or Territory</b>	<b>Relevant Acts (regulations made under the Acts contain more specific requirements)</b>
New South Wales	<i>Stock Foods Act 1940</i> <i>Stock Diseases Act 1923</i> <i>Exotic Diseases of Animals Act 1991</i> <i>Prevention of Cruelty to Animals Act 1979</i>
Victoria	<i>Livestock Disease Control Act 1994</i> <i>Prevention of Cruelty to Animals Act 1986</i>
Queensland	<i>Stock Act 1915</i> <i>Exotic Diseases in Animals Act 1981</i> <i>Animal Care and Protection Act 2001</i> <i>Agricultural Standards Act 1994</i>
South Australia	<i>Livestock Act 1997</i> <i>Prevention of Cruelty to Animals Act 1985</i>
Tasmania	<i>Animal Health Act 1995</i> <i>Animal Welfare Act 1993</i>
Western Australia	<i>Stock Diseases (Regulations) Act 1968</i> <i>Exotic Diseases of Animals Act 1993</i> <i>Biosecurity and Agricultural Management Act 2007</i> <i>Stock Identification and Movement Act 1970</i> <i>Animal Welfare Act 2002</i> <i>Veterinary Preparations and Animal Feeding Stuffs Act 1976</i>
Australian Capital Territory	<i>Stock Act 2005</i> <i>Animal Diseases Act 2005</i> <i>Animal Welfare Act 1992</i>
Northern Territory	<i>Stock Diseases Act 2004</i> <i>Animal Welfare Act 2004</i>

States and Territories have legislation that enables welfare standards to be either adopted by reference or included in regulations. Model Codes of Practice for the welfare of animals have been developed by government in consultation with industry and endorsed by the Primary Industries Ministerial Council (or predecessor). There are codes for all the major species and include welfare requirements on-farm whatever the form of husbandry.

The Australian Government Department of Agriculture, Fisheries and Forestry has developed the Australian Animal Welfare Strategy to provide the national and international communities with an appreciation of animals' welfare requirements in Australia and to outline future directions for improvements in animal welfare. A national implementation plan has been developed to implement the strategy which includes the development of national standards for inclusion in State and Territory legislation and guidelines to support the standards.

#### 4.1.1.3 Import legislation

The importation of live animals into Australia is regulated by the Australian Government Department of Agriculture, Fisheries and Forestry under the *Quarantine Act 1908* and subordinate legislation and by the Australian Government Department of Environment, Water and Heritage and the Arts under the *Environment Protection and Biodiversity Conservation Act 1999* and subordinate legislation<sup>19</sup>. The Quarantine Act is implemented by the Australian Quarantine and Inspection Service (AQIS).

Biosecurity Australia is responsible for developing and reviewing Australia's biosecurity policies so that animals can be imported safely and with minimal restriction on trade. Biosecurity Australia develops import requirements, based on scientific evidence, which are taken into account by AQIS in assessing applications for permits to import.

#### 4.1.1.4 Export legislation

Live animal exports are controlled by the *Export Control Act 1982* and more specifically, the *Export Control (Animals) Order 2004*. Live cattle, sheep and goats can only be exported under an export licence. The *Australian Meat and Livestock Industry Act 1997*, administered by DAFF, controls export licences. AQIS provides the export certification for live animals, ensuring the fitness of the animals and that importing country requirements have been met.

Livestock for export live are required to meet the Australian Standards for the Export of Livestock<sup>20</sup> which set out the basic standards including sourcing and on-farm preparation of livestock. As a proportion of animals produced under requirements for export markets are supplied to the domestic market the requirements for export will be considered during the next stage (Second Assessment) of this Proposal.

#### *4.1.2 Industry measures*

Producers' participation in industry quality assurance or food safety schemes is voluntary. However, implementation of a program that provides assurance that food safety, or specific components of food safety, may be required to produce for supply to certain markets and to meet processor obligations.

##### 4.1.2.1 Livestock Production Assurance (LPA)

The scope of the Livestock Production Assurance program is cattle (including dairy cattle) sheep and goats production. The LPA Level 1 provides a set of guidelines and checklists including a National Vendor Declaration (NVD) to help producers declare the food safety status of their livestock. The LPA guidelines present producers with very basic animal production and record keeping requirements designed to ensure the production of safe food. The respective species NVDs require accurate declaration of livestock integrity, chemical treatments and feeding regimes.

The LPA level 1 consists of one module, Food Safety Management, made up of five elements:

- property risk assessment

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<sup>19</sup> Animal Health Australia (2009). *Animal Health in Australia 2008* Department of Agriculture, Fisheries and Forestry, Canberra, Australia

<sup>20</sup> The Australian Standards for the Export of Livestock are available on the DAFF website [www.daff.gov.au](http://www.daff.gov.au)

- safe and responsible animal treatments – focusing on agricultural and veterinary chemical usage
- stock foods, fodder crops, grain and pasture treatments – focusing on livestock feeding issues and maintenance of the ruminant feed ban
- preparation for dispatch of livestock – focusing on reducing the microbiological load and pathogen shedding
- livestock transactions and movements – focusing on management of information for traceability.

Livestock producers fully accredited in LPA Level 1 may participate in LPA Quality Assurance (LPA Level 2). This on-farm quality assurance program, incorporating the Cattlecare and Flockcare programs, enables producers to be able to readily adopt quality assurance systems on their properties and contains:

- food safety management (see LPA Level 1)
- systems management
- livestock management.

Currently LPA is the largest on-farm food safety initiative in Australia with an estimated 99.9% of livestock production farms being covered by the system. The drivers for LPA adoption are the processors and feedlot operators.

AUS-MEAT<sup>21</sup> conducts some 2000 routine compliance audits per annum to ensure compliance with the accreditation system. Audit results to date indicate a 97.5% satisfactory completion rate for NVDs at saleyards across all categories of NVD<sup>22</sup>.

Additionally, processors have undertaken separate reviews of LPA NVDs to ensure that no livestock are slaughtered without a satisfactorily completed NVD. From 1 March 2008, provisionally accredited properties were no longer able to use or purchase LPA NVDs, if not fully accredited i.e. only fully accredited properties are able to use the LPA NVDs; thereby assuring that the NVD is backed by a QA program. On 1 July 2008, the management and control of LPA was vested in AUS-MEAT.

AUS-MEAT is responsible for auditing the LPA programs.

#### 4.1.2.2 Cattlecare

The Cattlecare system is an on-farm quality assurance program for producers raising cattle now incorporated in LPA. Cattlecare places particular importance on:

- minimising risk of chemical contamination through the safe, responsible use of chemicals
- minimising bruising and hide damage
- more effective management and herd improvement through better record keeping.

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<sup>21</sup> AUS-MEAT Limited is an industry owned, non-profit company operating as a joint venture between Meat & Livestock Australia (MLA) and the Australian Meat Processor Corporation.  
www.ausmeat.com.au

<sup>22</sup> FSANZ, *Food Safety Controls in the Australian Meat Industry* 2008. Report prepared for FSANZ by SafeFood Queensland 2008 (unpublished)

The CattleCare program is a LPA –QA (Level 2) program and was developed in accordance with ISO 9000 and HACCP principles as the production-based quality assurance program for grass-fed beef. Approximately 25% of all Australian herds are raised under this system. AUS-MEAT audits the CattleCare auditors to ensure that standards are being maintained. This system has been expanded to include other species and crop farm usage as well.

#### 4.1.2.3 Flockcare

The Flockcare system is an on-farm quality assurance program for producers raising lambs and sheep now incorporated in LPA. Flockcare addresses:

- food safety, chemicals and residues
- animal health, husbandry and welfare
- preparation, presentation and transport.

#### 4.1.2.4 Australian Pork Industry Quality (APIQ) Program

APIQ is an on-farm auditable quality assurance program for the production of pigs developed by Australian Pork Limited as part of the Pork Supply Chain Integrity System. For accreditation under the program, producers must have systems to demonstrate:

- property and production management
- chemical identification, control and management
- drug identification including withholding periods and export slaughter interval and control and management
- biosecurity and welfare management
- food safety management
- record keeping and audit arrangements.

The aim of the microbiological food safety component (biological standards) is to ensure that production and transport practices reduce or prevent carcass contamination by microorganisms that cause food-borne illness.

The integrity system also includes PigPass QA, a simplified program focusing on food safety, as a first step for pig producers in having their farms fully APIQ certified. These programs provide the assurance that the producer has systems in place when completing the PigPass National Vendor Declaration for the supply of pigs for slaughter.

#### 4.1.2.5 Safe Quality Food 1000 and 2000

Safe Quality Food (SQF) 1000 and 2000 product certification schemes are licensed by the Food Marketing Institute (FMI).

SQF 1000 provides an integrated food safety and quality management certification scheme for the primary producer. SQF 2000 provides the food sector (including primary producers, food manufacturers, retailers, agents and exporters) a food safety and quality management certification scheme that enables suppliers to meet regulatory, food safety and commercial quality criteria. Most Australian primary producers accredited under SQF1000 are based in Western Australia.

#### 4.1.2.6 National Feedlot Accreditation Scheme

The National Feedlot Accreditation Scheme (NFAS) is an industry self-regulatory, quality assurance scheme covering the grain-fed cattle feedlot industry.

It was initiated by the Australian Lot Feeders Association (ALFA) and managed by the Feedlot Industry Accreditation Committee. The Committee is comprised of representatives from industry and government. It is an industry funded and managed quality assurance scheme that includes compliance with food safety and integrity legislation. Under the program, beef feedlots can demonstrate they are operating in accordance with requirements in relation to animal welfare, environment, meat quality and food safety.

Accreditation under NFAS is mandatory for all beef identified as grain-fed beef exported from Australia. Therefore, the larger feedlots which produce cattle intended for the export markets are accredited. Cattle supplied to the domestic market are produced under this accreditation as a proportion, about a third, of these feedlot cattle are supplied to the domestic market. The NFAS is closely linked with the LPA program as all cattle supplied to feedlots must be from LPA accredited properties.

Participants in the NFAS are independently audited each year by AUS-MEAT at no expense to government.

#### 4.1.2.7 Industry programs to manage feed

##### **Feedsafe**

'FeedSafe', operated by the Stock Feed Manufacturers' Council of Australia, aims to mitigate risks to food safety in the manufacture and use of animal feeds. Members are required to comply with the *Code of Good Manufacturing Practice for the Feed Milling Industry* to maintain their membership and undergo annual site audits by third party auditors. The Code was developed in conjunction with the Chief Veterinary Officers of each State and the final document has Primary Industries Ministerial Council endorsement. Livestock producers are recommended to purchase feed from 'FeedSafe' accredited suppliers.

The Australian Fodder Industry Association Inc (AFIA) has produced a Product Code of Practice which aims to assist fodder producers to enhance their product and on-farm management. This Code of Practice involves an annual declaration by the fodder producer/supplier, certifying that conditions of product safety and quality have been met.

In regard to safety, the Product Code of Practice requires sellers of hay and silage to apply any chemicals to the crop during production in accordance with the respective label and comply with any withholding periods and supply a vendor declaration forms with each lot of fodder

CSIRO has published the *Australian Code of Good Manufacturing Practice for Home-mixed Feeds, the Feed-milling Industry and Stock-feed Premixes* which aims to control residues in feed<sup>23</sup>. Meat and Livestock Australia has published the *Australian Meat and Bone Meal Guide for Feed Manufacturers*<sup>24</sup> which was developed jointly by the Australian Renderers Association and MLA. It provides recommendations for use of MBM in animal feeding

An analysis of the requirements included in industry schemes to manage hazards is provided in Table 4 in Supporting Document 4.

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<sup>23</sup> CSIRO 2003, SCARM Report 41 *Code of Good Manufacturing Practice for Home-mixed Feeds, the Feed-milling Industry and Stock-feed Premixes*.

<sup>24</sup> MLA 2003, *Australian Meat and Bone Meal Guide for Feed Manufacturers*

## **National Standard for Animal Feed**

A National Standard for Animal Feed is currently under preparation by the Department of Agriculture, Fisheries and Forestry in consultation with an industry/government working group. The National Standard aims to provide consistency across Australia by including nationally acceptable requirements for animal feed manufacture, labelling, ingredients, production, processing, distribution and on-farm production of feed. It is based on the Codex *Code of Practice on Good Animal Feeding*<sup>25</sup>.

The Standard would have voluntary application to domestically produced and imported feed. It would only be mandatory if adopted or included in legislation.

### **4.2 Transport (Primary Production)**

#### *4.2.1 Regulatory*

##### 4.2.1.1 Australia New Zealand Food Standards Code

There are no requirements in the Code that include the control measures for transport.

##### 4.2.1.2 State and Territory

In all State and Territories, there is legislation that would cover the following control measures:

- animals are fit to travel
- animals are as clean as practicable
- implementing feed curfews without adverse effects on meat safety
- vehicles are clean prior to loading
- animals are not unduly stressed so as to affect meat safety or suitability
- loading, driving and unloading is carried out in a manner that avoids injury to animals.

Many of these requirements are in animal welfare legislation.

#### *4.2.2 Industry*

##### 4.2.2.1 TruckCare

TruckCare is a voluntary quality assurance program aimed at delivering good animal welfare, biosecurity, animal traceability and resultant food safety outcomes whilst transporting livestock. It is administered by the Australian Livestock Transporters Association.

The program is aimed at raising awareness, introducing quality management, implementing a quality management system integrated with customers or road transport quality assurance programs. TruckCare has been developed with the assistance of the Department of Primary Industries, Victoria and is designed to integrate with other quality programs including CattleCare, FlockCare, National Sleyard Quality Assurance and TruckSafe<sup>26</sup>.

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<sup>25</sup> Codex Alimentarius Commission, *Code of Practice on Good Animal Feeding* CAC/RCP 54-2004

<sup>26</sup> TruckSafe is a business and risk management system, which is aimed at improving the safety and professionalism of trucking operators nationwide. It is operated by the Australian Trucking Association. [www.atatruck.net.au](http://www.atatruck.net.au)



Stock transport companies are independently audited to demonstrate compliance against the program and accredited companies are listed on the TruckCare website.

#### 4.2.2.2 LPA and APIQ

Industry programs such as LPA and APIQ include standards for transport aimed at reducing stress prior to slaughter. For example, in APIQ the main requirements are that transport and loading requirements avoid sunburn (which would not only stress the pig but damage the skin and thereby affect suitability), temperature stress and exposure, stocking rates are observed, pigs different in weight are separated, and dogs and electric prodders are used appropriately.

#### 4.2.2.3 National feedlot accreditation scheme

The NFAS includes requirements with respect to transport of cattle including design and construction requirements for trucks to prevent injury, to allow cattle to stand upright and to minimise soiling of lower decks. Trucks must be clean before loading and loaded to appropriate densities, There are also requirements in respect to food and water and rest stops.

### **4.3 Saleyards (Primary Production)**

#### *4.3.1 Regulatory*

There are no requirements in the Code that include the control measures for saleyards.

The legislation controlling animal health and diseases would cover management of these issues at saleyards. Also there are planning and environment requirements covering the location and operation of saleyards which may impact on their design and construction. There is a model Code of Practice for the Welfare of Animals – Animals at Saleyards<sup>27</sup>.

#### *4.3.2 Industry*

##### 4.3.2.1 The National Saleyards Quality Assurance Program (NSQA)

The program is owned and operated by National Saleyards Quality Assurance Ltd, which is a company in its own right owned by members of NSQA. The NSQA Program was developed to underpin the *National Standard for the Operation of Australian Saleyards*. This Standard was developed with input from all sectors of the Industry. The NSQA Program is an auditable means of managing and assessing compliance with the Standard.

The program focuses on six areas that impact on quality; animal welfare, residue status, food safety, meat quality, traceability and stakeholder satisfaction. AUS-MEAT Limited has been appointed by NSQA Ltd as auditors. Of the approximately 200 saleyards operating on a regular basis (i.e. more than a couple of times a year), around a 100 are members of NSQA and around 50% are accredited. This includes all but two of the largest saleyards<sup>28</sup>.

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<sup>27</sup> CSIRO, SCARM Report 31, *Model Code of Practice for the Welfare of Animals – Animals at Saleyards* 2002

<sup>28</sup> Personal communication AUSMEAT

#### 4.3.2.2 Australian Code of Practice for the Selling of Livestock<sup>29</sup>

The Code of Practice has been developed by the Saleyard Operators Australia, the official trading name of Saleyard Operators Association of NSW Inc established in 1881. Originally a NSW organisation, it now has members across Australia and claims that it is the peak industry body, having the largest number of active members; the owners and operators of saleyards across Australia.

It is a guide to aid saleyard operators comply with requirements for health, safety and welfare of all classes of livestock for sale at saleyards. The Code of Practice covers several meat safety factors mainly aimed at preventing stress and the adverse effects on meat for example, dark cutting meat. as a result of stress, including provision of feed and water of suitable quality, provision of shelter, care handling animals and ensuring the safety of animals, cleanliness of the yards, transport of animals, handling of weak, injured and ill livestock and condition of livestock offered for sale. There are also provisions for animal identification, emergency disease response, and guidelines for biosecurity.

It is estimated<sup>30</sup> that about 80% of saleyards would comply with the Code of Practice, particularly the larger ones (i.e. more modern, bigger throughput).

### **4.4 Processing**

#### *4.4.1 Regulatory*

##### 4.4.1.1 Australia New Zealand Food Standards Code

The food standards in Chapter 1 – General Food Standards include labelling requirements, the maximum permitted levels for additives, processing aids, contaminants and natural toxicants, maximum residue levels for agricultural and veterinary chemicals in food, requirements for materials in contact with food, processing requirements and microbiological limits for food. Chapter 2 – Food Product Standards, contains requirements for specified classes of foods and includes Standard 2.2.1 Meat and Meat Products.

Although the meat produced as a result of the slaughtering of animals must meet the above requirements, there are no requirements in Chapter 1 or Chapter 2 that apply to the slaughter, dressing and secondary activities such as boning or production of primary products (such as natural casings and rendered products).

Standards 3.2.2 – Food Safety Practices and General Requirements and 3.2.3 – Food Premises and Equipment set out specific requirements for food businesses, food handlers and the food premises and equipment with which they operate to ensure the safe production of food. The Chapter 3 Food Safety Standards apply in Australia only and apply to all food businesses, other than primary production businesses<sup>31</sup>, involved in the handling of food intended for sale. Under the application provisions in Chapter 3, these standards would apply to meat processing.

Standard 3.2.2 requires food to be protected from contamination, to be stored under appropriate temperatures and other environmental conditions (to ensure safety and suitability), to use safe ingredients and to be processed so that the food is safe to eat.

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<sup>29</sup> Saleyards Operators Australia, *Australian Code of Practice for the Selling of Livestock 2007*

<sup>30</sup> Personal communication - Saleyard Operators Australia

<sup>31</sup> Primary food production means the growing, cultivation, picking, harvesting, collection or catching of food and includes transportation or delivery, and the packing, treating (such as washing) or storing of food on the premises on which it was grown, cultivated, picked etc.

There are also requirements for health and hygiene of personnel and for cleaning and sanitation. Standard 3.2.3 has requirements for premises and equipment that facilitates compliance with Standard 3.2.2<sup>32</sup>.

#### 4.4.4.2 Federal legislation

##### ***Imported meat***

The importation of meat, whether cooked and uncooked, is regulated by the Australian Government Department of Agriculture, Fisheries and Forestry under the *Quarantine Act 1908* and the *Imported Food Control Act 1992* and regulations and implemented at the border by AQIS.

An import permit with conditions may be required depending on the product. Information on import requirements is available in the ICON database on the AQIS website<sup>33</sup>. If a permit is granted and the food permitted entry, it must comply with the Imported Food Control Act. The object of the Act is to provide for the compliance of imported food with the Code and requirements of public health and safety.

##### ***Exported meat***

The export of meat is regulated by the Australian Government Department of Agriculture, Fisheries and Forestry under the Export Control Act 1992, Export Control (Prescribed Goods - General) Order 2005 and the Export Control (Meat and Meat Products) Order 2005. AQIS provides inspection, verification and certification services to the export meat industry in Australia including export certification, a scientifically-based meat inspection system at meat processing plants and audits of approved arrangements. Comprehensive details of the AQIS export meat program are available on the AQIS website in ELMER 3 (Electronic Legislation, Manuals and Essential References) which contains Legislation, AQIS Meat Notices, Export Meat Manual Volume 2, Guidelines etc, and a range of other information relating to the program.

Meat from animals processed for the export market is sold domestically. Therefore the requirements applicable to processing of export meat are relevant to this Proposal. The Export Meat Orders referred to above reference the *Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption AS 4696-2007* as the basis for operational controls for the export meat industry.

#### 4.4.4.3 State and Territory legislation

All States and Territories have separate legislation specific to the State or Territory that requires businesses operating abattoirs/meat slaughtering facilities to be licensed or accredited and to operate in accordance with approved systems to manage meat safety and suitability. The legislation requires the businesses to comply with the *Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption AS 4696-2007*.

#### 4.4.4.4 Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption AS 4696-2007.

AS 4696-2007 was published by Standards Australia in 2007 to replace a series of Australian Standards relevant to the meat industry.

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<sup>32</sup> The Food Safety Standards are available on the FSANZ website [www.foodstandards.gov.au](http://www.foodstandards.gov.au).

<sup>33</sup> [www.daff.gov.au](http://www.daff.gov.au)

Compliance with Australian Standards is voluntary unless required by legislation, which all States and Territories have done with AS 4696-2007. It was developed as part of a review of domestic and export requirements in accordance with national competition policy principles. AS 4696-2007 was prepared by the Meat Standards Committee and that Committee was responsible for maintaining the standard until it was disbanded in 2007. The future maintenance of the standard was transferred to a working group of the Primary Industries Ministerial Council which supports its inclusion within the national framework for setting food standards i.e. in the Code, to place standards for the meat processing sector on the same footing and under the same mechanisms for varying (i.e. under the FSANZ Act) as standards applicable to other food industry sectors.

The prime objective of AS4696-2007 is to ensure that meat and meat products for human consumption comply with food safety requirements and are wholesome. The term 'wholesome' is defined to mean that the meat and meat products:

- are not likely to cause food-borne illness or intoxication when properly stored, handled and prepared for their intended use
- are free of obvious contamination
- are free of defects that are generally recognised as objectionable to consumers
- have been produced and transported under adequate hygiene and temperature controls
- do not contain additives other than those permitted under the Code
- have not been irradiated contrary to the Code
- have not been treated with a substance contrary to a law of the Commonwealth or a law of the State or Territory in which the treatment takes place.

AS 4696-2007 incorporates secondary objectives so that wholesomeness can be assured. These objectives include the need for systems to be in place for the accurate identification, traceability, effective recall and integrity of meat and meat products. They also include animal welfare objectives as they impact on food safety and on public expectations as to wholesomeness.

Under AS4696-2007 processors may only accept animals that are sourced from holdings where animals are raised according to good husbandry practices and are not fed feedstuffs that could jeopardise the wholesome of meat and meat products derived from the animals. The holding must also have a system for identifying disease, abnormality or treatment of animals that could affect their fitness for slaughter.

States and Territories require evidence, in the form of National Vendor Declarations backed by industry QA programs or documentation equivalent to these NVDs, as proof or assurance that the animals have been raised in accordance with the above good husbandry practices and are traceable. The specific requirements differ in the different jurisdictions. However, the move is towards national consistency in the documentation that is acceptable for example, the PigPass NVD backed by APIQ or an equivalent QA program which is required by AQIS for export slaughter and, in some States, for domestic slaughter. PigPass QA is also acceptable in some States for domestic slaughter.

Compliance initially with export requirements and increasingly for domestic, including traceability and husbandry requirements in AS 4696-2007 has acted as a driver to producers to supply animals that will be acceptable for processing.

#### 4.4.4.5 Industry

There is guidance to processors mainly on meeting welfare standards for example, the *National Animal Welfare Standards at Livestock Processing Establishments*<sup>34</sup> produced by the Australian Meat Industry Council (AMIC) and the Victorian Government. There is also a Model Code of Practice for the Welfare of Animals – Livestock at Slaughtering Establishments.<sup>35</sup>

### **4.5 Skills and knowledge**

#### *4.5.1 Regulatory*

The Code does not contain requirements for training or for skills and knowledge for persons working on livestock properties except in relation to dairy farming under Standard 4.2.4. This latter requirement is in regard to milk production.

Standard 3.2.2 requires food handlers and their supervisors to have skills and knowledge in food hygiene and food safety matters. This would apply to abattoir workers and meat processors.

#### *4.5.2 State and Territory*

There does not appear to be any requirements in legislation for producers to be trained in food safety aspects of raising livestock.

Compliance with AS 4696 requires the meat processor to document the training of personnel and ensure that training is appropriate to the work being carried out. There are specific obligations in relation to ensuring meat handlers are informed of the personal hygiene and health requirements.

#### *4.5.3 Industry*

##### 4.5.3.1 Primary Production

Training is an important component of the industry quality/safety assurance programs including LPA-QA, APIQ/PigPass QA, NFAS and NSQA. Also, the industry associations are active in providing training programs for livestock production for example, the Australian Lot Feeders Association conducts annual training workshops for members on issues relating to food safety and integrity.

AgriFood Skills Australia is a public company limited by guarantee with an industry-led board. The council's funding principally is provided by the Australian Government through the Department of Education, Employment and Workplace Relations. Its purpose includes actively supporting the development, implementation and continuous improvement of high quality training and workforce development products and services, including training packages.

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<sup>34</sup> AMIC 2005, *National Animal Welfare Standards at Livestock Processing Establishments Preparing Meat for Human Consumption*, [www.amic.org.au](http://www.amic.org.au)

<sup>35</sup> CSIRO 2002, *Model Code of Practice for the Welfare of Animals – Livestock at Slaughtering Establishments* SCARM Report 79

Agri-Food training packages are used by Registered Training Organisations to deliver industry skills and qualifications. Training packages for primary production include animal care and management.

Chemcert Australia provides training programs in farm chemical use.

#### 4.5.3.2 Processing

The national Meat Industry Training Advisory Council, MINTRAC, is responsible for formal training in the meat processing industry. MINTRAC is a company, owned by the meat industry, which represents the industry on training matters. Its role is to improve the skills of workers in the red meat, pork and game industry through the provision of recognised and accredited training from entry level through to senior management. MINTRAC does not provide training but works with Registered Training Organisations to facilitate training. MINTRAC services the three sectors of the meat industry, processing (abattoirs and boning rooms), smallgoods and meat retailing.

MINTRAC is funded for its operations by the meat industry though red-meat processor levies and is also funded from research and development funds administered by Meat and Livestock Australia and matched dollar for dollar by the Australian Meat Processors Corporation. Other projects are wholly funded from a variety of sources, such as State and Federal education and training authorities, or targeted industry projects.

Agri-Food Skills Australia also provides training packages for meat processing through the Australian Meat Industry Training Packages.

### **4.6 Traceability**

#### *4.6.1 Regulatory*

The Primary Production and Processing Standard for Dairy Products requires dairy businesses to have a system for tracing animals to be milked. The Standard is not specific as to the type of tracing system.

State and Territory governments require meat and dairy cattle, sheep and farmed goats (with exemptions for dairy goats and wild caught goats consigned directly to slaughter) to be identified through the National Livestock Identification Scheme (NLIS). Pigs are required to be individually identified by branding. The industry developed identification system for pigs, the PigPass system – a pork supply integrity system under the NLIS (Pork) project, is not mandatory. All animals consigned to saleyards or for slaughter must be accompanied by documentation assuring their identity, health and chemical residue status. The legislation and requirements vary between jurisdictions.

AS 4696-2007 requires processors to only accept animals that are identifiable and accompanied by vendor declarations. Aligning documentation with animals' identification is improved through use of electronic tags and/or stomach bolus which are increasingly used with cattle but is less common with sheep and goats. However, traceability after slaughter, particularly for sheep and goats, is dependent on matching documentation with slaughter sequence and transferring tag information to the carcass. Traceability of carcass parts is more difficult, again dependant on transferring information where the parts are intended for human consumption. Once carcasses are boned, the meat in one carton is likely to be from more than one animal and ability to recall cartons is based on information such as date of slaughter.

**Table 4: Legislation requiring identification of animals and recording stock movements**

<b>State or Territory</b>	<b>Legislation</b>
New South Wales	<i>Stock Diseases Act 1923</i> <i>Stock Diseases Regulations 2004</i>
South Australia	<i>Livestock Act 1997</i> <i>Livestock Regulations 1998 Part 6 Livestock Identification</i>
Queensland	<i>Stock Act 1915</i> <i>Stock Identification Regulations 2005</i>
Victoria	<i>Livestock Disease Control Act 1994 part 2 Division 1 (sections 9 and 9A)</i> <i>Livestock Disease Control Regulations 2006 Part 3 Identification of Livestock</i>
Tasmania	<i>Animal (Brands and Movement) Act 1984 Part IVA Permanent identification devices</i> <i>Animal (Brands and Movement) Regulations 2003</i>
Western Australia	<sup>36</sup> <i>Stock (Identification and Movement) Act 1970 and Regulations</i> <i>Stock Diseases (Regulations) Act 1968 and the Enzootic Diseases Regulations 1968 Part 8A Cattle or buffalo identification.</i>
ACT	<i>Animal Diseases Act 2005</i> <i>Animal Diseases Regulations 2006 Part 2 Identification of stock</i>
NT	<i>Stock Diseases Act</i> <i>Stock Diseases Regulations</i>

States and Territories publish considerable guidance for industry on identification, traceability and documentation relevant to their jurisdiction. It is not always clear from the guidance whether a requirement is a legal obligation or best practice or whether (or which) requirements are nationally consistent.

#### 4.6.2 Industry

Industry has been proactive in developing traceability schemes to respond to mainly export market requirements but more recently for emergency disease management and residue issues. The MLA administers the NLIS on behalf of industry and government including the database that records the animal movements. The PigPass system is actively promoted and is required by some states for pigs sent for processing. The National Feedlot Accreditation Scheme requires cattle to be identified and recording of cattle transactions and movements of cattle to and from the feedlot.

Industry and government are actively working to improve traceability for example, through Animal Health Australia (AHA)<sup>37</sup>. AHA is represented on the Management and Standards Committees of the NLIS, actively encourages other industry members to adopt national livestock identification and traceability schemes, ensures mandatory livestock identification and traceability is a priority for the animal health system and communicates the importance of effective livestock identification and tracing systems to all stakeholders.

<sup>36</sup> Currently under two sets of legislation which will be consolidated as a result of the Biosecurity and Agriculture Management Act 2007 and Biosecurity and Agriculture Management (Repeal and Consequential Provisions ) Act parts of which are in force.

<sup>37</sup> Animal Health Australia (AHA) is a not-for-profit public company established by the Australian Government, state and territory governments and major national livestock industry organisations [www.animalhealthaustralia.com.au](http://www.animalhealthaustralia.com.au). AHA issued a policy paper on livestock traceability and identification March 2009.

**Table 5: Summary**

	<b>Supply to saleyard/abattoir</b>	<b>Receipt at abattoir</b>	<b>Slaughter, dressing and passed fit at post mortem inspection</b>	<b>Boning and packaging</b>
<b>Live animal</b>	Identification as per legislation in above table	Identification of the place of production or if captured in the wild- where captured <sup>38</sup>		
<b>Carcass</b>			Carcass tag <sup>39</sup> with identification <sup>40</sup>	
<b>Parts</b>			Carcass parts are correlated with carcass <sup>41</sup>	
<b>Meat and meat products</b>				Information to achieve a recall; based on business, batch <sup>42</sup> , date of processing, date of consignment and consignee <sup>43</sup>

## 4.7 Summary

### 4.7.1 Primary production

The Code does not contain requirements that address hazards that occur on-farm, at the saleyards and during transport.

All States and Territories have legislation to prevent and control disease in livestock on-farm. These Acts and Regulations are different in each State and Territory but would address to some extent, the pathogens that cause diseases and conditions that make meat unsafe or unsuitable to eat. The legislation appears to be drafted to allow governments to react to a situation, rather than proactively work in partnership with livestock producers to ensure animals provide safe and suitable meat. However, there does not appear to be evidence that this approach is not working.

Similarly, the legislation that controls welfare also addresses, to a considerable extent, hazards arising from injury and stress caused by poor husbandry practices such as inappropriate handling and overcrowding. The focus is on preventing mistreatment of animals rather than meat safety or suitability.

<sup>38</sup> AS 4696 6.6(b)

<sup>39</sup> Note electronic system – EAN

<sup>40</sup> AS 4696 6.13 Place of production and information about condition, treatment, exposure and slaughter necessary to assess wholesomeness can be ascertained

<sup>41</sup> AS 4696 6.13 and 10.10

<sup>42</sup> 'Batch' is defines as an identifiable quantity of a commodity produced under essentially the same conditions and during the same time period not exceeding 24 hours.

<sup>43</sup> As 4696 16.4 the outcome of section 16 is achieving recall. States may have additional provisions for traceability over recall as part of traceability components of food safety plan see Primesafe Licensing Information on website.



The type of 'mistreatment' that would be considered contrary to the welfare legislation may not be the same as that which would adversely affect meat safety. Again, there does not appear to be evidence that this approach is not working.

The legislation that controls the production and use of agricultural and veterinary chemicals appears to be relatively uniform in content across the States and Territories and based on Commonwealth legislation. Standards in the Code manage residues in meat for sale. This approach is effective.

Generally speaking, industry schemes appear to adequately address safety and suitability and focus on traceability, chemical issues and fitness for travel i.e. do not specifically cover microbiological issues. Industry is supportive of broadening the schemes to address any gaps in microbiological issues.

A key driver for producers is that animals will not be accepted if the processor cannot fulfil its obligations under AS 4696-2007. There is no clear set of legislated food safety responsibilities on producers. However, our analysis concluded that the current systems are effective.

This is also the case for transporters and saleyard operators.

#### *4.7.2 Processing*

The Code, through provisions in Chapter 3, controls hazards that occur in processing but do not specifically address meat processing. There may be gaps between the requirements of Chapter 3 and the current obligation under State and Territory legislation to comply with AS 4696-2007. These gaps will be assessed at Second Assessment.

AS 4696-2007 is quite specific as to the procedures a processor must follow, or criteria it must meet, to comply with the outcomes. Whereas this approach to regulation may assist some processors, it does not offer flexibility for businesses that may wish to use other means to achieve safe and suitable meat. Such a degree of specification, rather than requiring an outcome, is not consistent with Ministerial guidance on standards in the Code for primary production and processing. However, the overall approach appears to be managing hazards at processing.

#### *4.7.3 Supporting measures*

Ensuring skills and knowledge through training programs appears reasonably well covered at processing through AS 4696-2007 and industry programs to meet this requirement. Industry programs for primary production include training.

Industry schemes have considerable requirements for traceability and actively promote the importance of this tool. The enabling legislation for traceability varies in the States and Territories in its scope and application.

FSANZ invites comment on the information provided above, particularly information in relation to:

- The adequacy of requirements in existing State and Territory legislation and industry schemes for control of hazards on-farm (including any gaps in relation to the current management of culled cows and calves), at saleyards and during transport
- The provisions of AS4696-2007 and Chapter 3 Standards in the Code and adequacy in terms of management of hazards in meat processing.

#### 4.7.4 Conclusion

FSANZ is currently undertaking an analysis of the meat industry, examining public health and safety risks attributable to meat and meat products in Australia, economic and social factors and current regulatory and industry practices. The analysis has examined whether controls are provided to protect public health and safety and the regulatory burden on all stakeholders including regulation developed and/or implemented by other government agencies that impact on food safety, i.e. the objectives embodied in the Ministerial Council *Overarching Policy Guideline on Primary Production and Processing Standards*.

FSANZ's evaluation of the hazards and current management practices in Australia indicates that there are no unmanaged food safety risks for the major meat sectors (cattle, sheep, goats, pigs) i.e. controls are provided to protect public health and safety. The evaluation found no significant gaps that warrant further chemical or microbiological risk assessments.

In regard to primary production, industry schemes appear to adequately address safety and suitability. All States and Territories have legislation to:

- prevent and control diseases in livestock on-farm
- control welfare that also addresses hazards arising from injury and stress
- control the use of agricultural and veterinary chemicals

This legislation, developed by other government agencies, differs to varying degrees in States and Territories.

The processing of meat and meat products for human consumption is currently regulated in all jurisdictions through AS4696-2007. The Meat Standards Committee, responsible for maintaining the standard, was disbanded in 2007. The problem with the existing regulatory requirements for processing is the maintenance and future review of AS4696-2007 is not within the food regulatory system. An additional problem is the degree of specification embodied in this standard does not offer flexibility for providing the food safety outcome, which is a key principle of food regulation.

## Objectives

### 5 Objective of the Proposal

The objective at this First Assessment stage is to propose options for through-chain food safety management which addresses the above issues.

#### 5.1 Statutory considerations

There are some specific legislative constraints on FSANZ as a standard setting body. These constraints will be considered in any analysis of risk management options.

### 5.1.1 *Food Standards Australia New Zealand Act 1991*

Where regulatory interventions are required (e.g. by developing or varying a food standard), FSANZ is required by its legislation to meet three primary objectives which are set out in section 18 of the FSANZ Act. These are:

- the protection of public health and safety; and
- the provision of adequate information relating to food to enable consumers to make informed choices; and
- the prevention of misleading or deceptive conduct.

In developing and varying food regulatory measures, FSANZ must also have regard to:

- the need for standards to be based on risk analysis using the best available scientific evidence;
- the promotion of consistency between domestic and international food standards;
- the desirability of an efficient and internationally competitive food industry;
- the promotion of fair trading in food; and
- any written policy guidelines formulated by the Ministerial Council.

### 5.1.2 *Policy guidelines*

The Ministerial Council *Overarching Policy Guideline on Primary Production and Processing Standards* specifies a number of high order principles that must be considered where a standard is developed. These principles state that standards will be outcomes-based, address food safety across the entire food chain where appropriate, ensure the cost of the overall system should be commensurate with the assessed level of risk and provide a regulatory framework that only applies to the extent justified by market failure.

## **Options**

### **6. Risk management options**

In order to decide the most effective and efficient approach for achieving the objectives, FSANZ must consider various risk management options. These options include the *status Quo* (the situation if no action is taken) as a comparative measure against appropriate regulatory (government) and non-regulatory (industry) approaches. The Australian Government has imposed obligations on agencies that are proposing new regulation on industry or reviewing current regulation. Agencies are required to consider self-regulation as one of the first options considered, in particular where there is no public health and safety concern.

## 6.1 Option 1 – Status Quo

- Option 1, the *Status Quo*, retains the current situation i.e. FSANZ would not make any changes to the Code or propose any other regulatory changes. This current situation is a combination of self-regulation of meat safety (and current legislation in place managing animal disease control, animal welfare, animal traceability, use of agriculture and veterinary chemicals and environmental issues) for the primary production sector and regulation for the processing sector.

## 6.2 Option 2 – through-chain food safety management consisting of non-regulatory and regulatory elements.

The current self-regulatory approach, with primary production businesses implementing and self-enforcing (e.g. through quality assurance programs) industry guidelines or codes of practice aimed at improving the safety of their product, would be supplemented with incentive and education programs. The aim of these programs, which could be joint industry/government programs, would be to maximise industry adoption of the quality assurance programs and commitment to food safety practices. For processing, the existing State and Territory meat safety requirements, embodied in AS4696-2007, would be implemented through a national outcome-based standard, which is not overly-prescriptive, incorporated into the Code.

### 6.2.1 Option 2 Summary

Sector	Management approach	Description
Primary production (on-farm)	Self regulation <sup>44</sup>	Producers implement (e.g. through quality assurance programs) industry guidelines or codes of practice aimed at improving the safety of their product. Government and industry would work jointly to maximise industry adoption of these quality assurance programs and commitment to food safety practices through incentives and education programs.
Processing	Regulatory	Processors would comply with requirements in the Code - existing state and territory meat safety requirements for processing, embodied in AS4696-2007, would be implemented through a national outcome-based standard, which is not overly-prescriptive, incorporated into the Code.

## 6.3 Option 3 – through-chain food safety management consisting of regulatory elements on farm and on processors.

Option 3 involves the development of food regulatory measures in the Code which would apply to the primary production and processing sectors.

A primary production and processing standard is a set of food safety obligations specifying requirements from animal production to the processing of meat animals, meat carcasses and meat products for human consumption.

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<sup>44</sup> Noting there is currently extensive legislation in place managing animal disease control, animal welfare, animal traceability, use of agriculture and veterinary chemicals and environmental issues.

The standards may include the implementation of measures to control the food safety hazards and the responsibility to demonstrate compliance. These legal obligations include measures to control food safety hazards that could occur during production and processing. Such measures may cover requirements for control of inputs, premises and equipment, health and hygiene, skills and knowledge, storage and transportation and traceability.

To date, FSANZ has developed primary production and processing standards for the seafood and dairy sectors and is currently assessing the development of standards for the poultry meat, egg, raw milk products and seed sprout sectors.

### 6.3.1 Option 3 Summary

Sector	Management approach	Description
Primary production	Regulatory <sup>45</sup>	Producers would comply with measures in the Code to control the food safety hazards and the responsibility to demonstrate compliance e.g. control of inputs and traceability. Implementation may be through mandated quality assurance programs.
Processing	Regulatory	Processors would comply with requirements in the Code - existing State and Territory meat safety requirements for processing, embodied in AS4696-2007, would be incorporated into the Code as a national outcome-based standard, which is not overly-prescriptive.

FSANZ invites comment on these, or other, options.

## **Impact Analysis**

The Assessment reports on this Proposal will provide information to comply with the Council of Australian Governments (COAG) requirements for regulatory impact analysis. FSANZ will continue to consult with the Australian Government's Office of Best Practice Regulation on meeting these requirements.

## **7. Consultation and communication**

### **7.1 Consultation**

The FSANZ process involves a consultative and transparent process that reaches the industry concerned, State and Territory Government agencies, as well as consumers. A Standard Development Committee is established with representatives from the industry sector, the relevant State and Territory government agencies and consumer organisations to provide ongoing advice to FSANZ throughout the process. The Standard Development Committee contributes a broad spectrum of knowledge and expertise covering industry, government, research and consumers (a list of Standard Development Committee members for this standard development Proposal is provided at Supporting Document 5). In addition, targeted consultations have been undertaken with the cattle, sheep, goat and pig industries through on-site visits to glean first hand perspectives and information from these parties.

<sup>45</sup> Noting there is currently extensive legislation in place managing animal disease control, animal welfare, animal traceability, use of agriculture and veterinary chemicals and environmental issues.

Additional targeted consultations will be undertaken throughout the standard development process as required.

This Report has been developed in consultation with the Standard Development Committee and provides the first opportunity, in accordance with FSANZ statutory consultation processes, for stakeholders to comment on and supply information to FSANZ in regard to Proposal P1005.

## 7.2 Communication

As the assessment of Proposal P1005 proceeds, FSANZ will report its progress on its website at

<http://www.foodstandards.gov.au/standardsdevelopment/proposals/proposalp1005primary4220.cfm>

Organisations or individuals with an interest in this Proposal can seek to have their names listed as an interested party by emailing the Standards Management Officer at [standards.management@foodstandards.gov.au](mailto:standards.management@foodstandards.gov.au) with their full contact details.

## 8. Affected parties

Parties that have been identified as potentially being affected by this Proposal: industry (including those involved in production of animals, processing of meat and meat products and retail), consumers of meat products and government, including member nations of the World Trade Organization (WTO).

- Industry

  - Primary production and livestock transport businesses

  - Feedlots and intensive production systems

  - Industry associations (including the Australian Meat Industry Council, Meat and Livestock Australia, Australian Lot Feeders Association, Sheepmeat Council of Australia, Cattle Council of Australia, Australian Dairy Farmers Ltd, Australian Pork Ltd, Australian Renderers' Association, Australian Game Meat Producers Association, Goat Industry Council of Australia, Stockfeed Manufacturers' Council of Australia)

  - Meat processors (export and domestic) including rendering for human consumption and production of natural casings

  - Wholesale and retail butchers and meat retailers

- Government

  - State and Territory Meat Authorities, Primary industry/Agriculture and Health Departments

  - Australian Quarantine and Inspection Service

  - Australian Government agencies involved in food regulation policy setting – Department of Health and Ageing and the Department of Agriculture, Fisheries and Forestry

  - Primary Industries Ministerial Council

  - New Zealand Food Safety Authority

- Government/Industry groups including SAFEMEAT and Animal Health Australia

- Consumers

## 8.1 World Trade Organization notification

As members of the WTO, Australia and New Zealand are obligated to notify WTO member nations where proposed mandatory regulatory measures are inconsistent with any existing or imminent international standards and the proposed measure may have a significant effect on trade.

This issue will be fully considered during the further assessment of the Proposal and, if necessary, notification will be recommended to the agencies responsible in accordance with Australia's obligations under either the WTO Technical Barriers to Trade (TBT) or Sanitary and Phytosanitary Measures (SPS) Agreements. This will enable other WTO member countries to comment on proposed changes to standards where they may have a significant impact upon them.

FSANZ invites comment and information in relation to the parties that may be affected by this Proposal.

## 9. Assessment of options

The impact analysis qualitatively examines the possible impacts on industry, government and consumers to help identify the option that provides the greatest benefit over existing arrangements. FSANZ, with advice from the Standard Development Committee and taking into consideration submissions made on this 1<sup>st</sup> Assessment Report, will undertake a detailed impact analysis of the costs and benefits to each affected party posed by each option. This analysis, together with the preferred option, will be detailed in the 2<sup>nd</sup> Assessment Report. A preliminary assessment of the options is provided below.

### 9.1 Option 1 – *Status quo*

#### 9.1.1 *Primary Production*

The CSIRO *Cost of Logistics Report 2008* identified that the 'Australian red meat industry is currently valued at more than \$AUD15 billion per year'. The industry includes processors, exporters, live exporters and retailers but relies on farmers to produce cattle and sheep.

The current self-regulatory approach requires primary production businesses to be able to implement and enforce (e.g. through certification schemes) industry guidelines or codes of practice aimed at improving the safety of their product. The success of such an approach needs strong industry wide commitment and the ability to apply sanctions or incentives (such as using a product logo which demonstrates compliance with a food safety scheme) to achieve maximum participation. There is currently legislation in place managing animal disease control, animal welfare, animal traceability, use of agriculture and veterinary chemicals and environmental issues.

The numbers of production farms with agricultural activity (at 30 June 2006) were: <sup>46</sup>

Sheep farming (specialised)	13,093
Beef cattle farming (specialised)	42,691
Beef cattle feedlots (specialised)	705

<sup>46</sup> Raw data obtained from *Livestock Products, Australia, Dec 2007*. The criteria for a Farm to be considered and listed in *Livestock Products, Australia*, is a minimum turnover of at least \$AUD20,000 per annum. These statistics do not include many 'hobby farms'.

Sheep-beef cattle farming	8,242
Farming	14,843
Dairy cattle farming	9,371
Pig farming	914

There are a number of potential benefits associated with self-regulation compared with explicit government regulation. These include:

- lower government administration costs because arrangements are developed and administered by industry;
- lower compliance costs for industry in relation to audits and administrative arrangements
- improved credibility by industry because requirements are developed by the industry rather than imposed by government.

The potential costs of self-regulation can include:

- expectation of compliance by governments and consumers which are not met when some businesses do not comply. Failure to comply may affect other businesses and/or other parts of the industry
- the lack of regulatory sanctions for non-compliance
- potential for inconsistent requirements on primary producers.

Self-regulation works if there is adequate industry coverage, viable industry associations, and the industry is very cohesive with members committed to food safety practices. However self-regulation has its limitations. There are some areas in which customers, be they Australian consumers or foreign governments, expect and demand the level of confidence provided by government regulation. Export inspection and the management of agricultural and veterinary chemicals are such areas and these are currently managed under government legislation.<sup>47</sup>

### 9.1.2 Processing

The processing of meat and meat products for human consumption is currently regulated in all jurisdictions through the *Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption (AS4696:2007)*, the Code and other Australian Standards; AS 5008-2007 *Hygienic Rendering of Animal Products* and AS5011-2001 *Hygienic Production of Natural Casings for Human Consumption*.

This option would result in no new costs to processors or government; however there would not be a mechanism for ensuring the currency of the Australian Standards as they would not be within the food standard-setting regulatory framework.

Current implementation costs for AS4696-2007 include the licence fees for meat premises (application, issue and renewals) and inspection and audit costs. For example, in Tasmania these fees are:

- licence fees for meat premises

<sup>47</sup> DAFF Submission to Taskforce on Industry Self-Regulation 2000.



(a)	application for licence	\$465.50
(b)	issue of licence	\$66.50
(c)	application for renewal of licence	\$325.88
(d)	application for transfer of licence	\$399.00

- Inspection and audit fees - licensed meat premises:

(i)	for the first hour or part hour	\$242.86
(ii)	for each additional half-hour or part half-hour	\$79.00

## 9.2 Option 2 – through-chain food safety management consisting of non-regulatory and regulatory elements.

### 9.2.1 Primary Production

The current self-regulatory approach, with primary production businesses implementing and self-enforcing (e.g. through quality assurance programs) industry guidelines or codes of practice aimed at improving the safety of their product, would be supplemented with education programs to maximise industry adoption of these quality assurance programs and commitment to food safety practices. The importance of managing food safety hazards at primary production, and the resultant commercial benefit, would be the focus of these programs. The impact of education could be evaluated by government, industry or jointly, by reviewing the level of adoption of industry schemes/programs two years after completion of this Proposal (i.e. December 2012).

As described under Option 1, self-regulation is effective when there is adequate industry coverage, viable industry associations, and the industry is very cohesive with members committed to food safety practices. This is demonstrated in the following case study.

#### ***A case study – Livestock Production Assurance program***

##### *Industry coverage*

Currently LPA is the largest on-farm food safety initiative in Australia with an estimated 99.9% of livestock production farms being covered by the system, including:

- 200,000 properties in total on the database
- 147,000 properties Fully Accredited<sup>48</sup>
- 5,000 redundant or duplicate properties
- 48,000 properties that are not yet fully accredited (mainly small hobby farms with very infrequent sales of livestock).

Of the 200,000 properties registered on the LPA database, most deal in multiple livestock types with the following species analysis:

- 177,000 cattle properties

<sup>48</sup> From a comparison of these LPA fully accredited property numbers with the total number of farms in Australia, it can be seen that there are currently more farms accredited with LPA (i.e. 147,000 properties) than there are known livestock farms in Australia. This anomaly is explained by the ABS data criteria for a farm that requires a minimum turnover of at least \$20,000 per annum. These statistics therefore do not include many 'hobby farms'.

- 74,000 sheep properties
- 8,000 goat properties
- 15,000 bobby calf properties
- 2,200 EU accredited properties

### *Drivers*

The drivers for LPA adoption are the processors and feedlot operators. The respective species NVDs contain different numbers of questions considered necessary to ensure accurate declaration of livestock integrity, chemical treatments and feeding regimes.

Processors have undertaken separate reviews of LPA NVDs to ensure that no livestock are slaughtered without a satisfactorily completed NVD.

### *Viable Industry Association*

MLA currently issues 80,000 books of NVDs per annum at a cost of \$AUD25 + GST per book. These funds cover the cost of independent third party auditing of the system by AUS-MEAT.

### *Industry commitment*

There have been approximately 8,000 random audits on farm for LPA since 2005, together with 1,500 QA audits on farm, 650 at feedlot, and 100 targeted on farm audits for non-compliance annually. This is combined with audits done annually on farm for properties with known residue risks. For on-farm random audits, greater than 95% of all corrective action requests have been closed.

### *Costs*

To manage the current on farm food safety and QA programs together with the feedlot program costs approximately \$2.5 million per year. This cost covers the audit management, participant management, advisory group management, database costs, financial management costs, auditor management and NVD printing. This revenue is gained from sales of NVDs. Industry also spends approximately \$AUD1.6 million a year on free call phone lines, call centres, communication, promotion, education, innovation and technology to meet the standards of these programs.

### *Sanctions*

If producers fail to uphold the rules and standards of the LPA program, they can lose their rights to use the LPA Trademark. The trademark is on all NVDs used within the red meat industry and such loss of rights to trademark means loss of rights to NVDs and a major marketing failure for any red meat livestock business. There is a long period to gain re-accreditation and means significant losses to a producer.

There is the potential to maximise industry adoption of, and commitment to, industry programs. Currently, the National Feedlot Accreditation Scheme has 620 accredited members out of 705 Feedlots nationally or 87.94% coverage. Truckcare is strongly supported by the Australian Meat Industry Council. The industry associations promotes the use of Truckcare to its member processors to increase the uptake of the program and facilitate integration of on farm, feedlot and saleyard quality assurance programs with the transport industry. Currently, 77 of the estimated 300 national transport companies are fully accredited under the revised Truckcare program.

This option provides for increased benefit with the potential for maximum industry adoption and coverage of existing industry schemes aimed at improving the safety of their product. The potential cost of the proposed education to maximise industry adoption of the quality assurance programs and commitment to food safety practices will be minimal as the information collated through the Proposal on the hazards potentially associated with the production and processing of meat and the corresponding management measures will provide a foundation for the work.

The issue FSANZ is addressing with the meat industry is not one of public health risk. Therefore, proposing the option of self-regulation on primary production is compliant with the government best practice as specified by the Office of Best Practice Regulation.

### *9.2.2 Processing*

Under this option, the existing state and territory meat safety requirements for processing, would be incorporated as a national outcomes-based standard, which is not overly-prescriptive, in the Code. This option has the advantage of providing a mechanism for reviewing and updating these requirements. Currently, no such mechanism exists which will ultimately render these laws redundant.

One of the key principles of good regulatory process is that mechanisms are needed to ensure regulation remains relevant and effective over time<sup>1</sup>. By including the current regulatory food safety requirements for meat processing in the Code, they would be within the food setting regulatory framework. This is the same regulatory framework as the meat wholesale and retail sectors and provides the same process, under the FSANZ Act, for reviewing and updating these requirements to ensure they remain relevant and effective and evolve in response to technological and other advances.

## **9.3 Option 3 – through-chain food safety management consisting of regulatory elements on farm and on processors**

### *9.3.1 Primary Production*

The development of food regulatory measures in the Code for the primary production and processing sectors establishes through-chain responsibility for meat safety with obligations on the primary producers of the animals and the businesses operating the abattoirs.

Under this option, government can act on non-compliance by a primary producer and can act on non-compliance by processors as per the current arrangements. However, there is the potential for increased costs, primarily associated with the enforcement and compliance of a regulatory measure that may be incurred by both government and industry. These increased costs would primarily be associated with the primary production sector as the processing sector is already regulated. The introduction of mandatory standards could result in a range of costs for industry. These costs may include:

- one-off expenses for capital improvement
- start-up costs for implementing required control measures
- on-going implementation costs.

There are a number of farm-based quality assurance systems within the meat industry which would be considered in the cost-benefit analysis so the incremental change may not be significant.

### 9.3.2 Processing

Similar to Option 2, as part of the food regulatory framework, there is an established mechanism for review and updating of requirements. The Office of Best Practice Regulation will seek assurance that a preferred option is the option that will minimise (or reduce) the burden on the meat industry and provide benefits to the meat industry, governments and consumers that outweigh costs.

FSANZ invites comment and information on the costs and benefits of the proposed risk management options from affected parties.

## **Conclusion**

### **10. Conclusion**

This 1<sup>st</sup> Assessment Report provides an opportunity for stakeholders to comment on and supply information to FSANZ in regard to Proposal P1005.

To assist FSANZ to undertake a comprehensive and informed impact analysis of the proposed options, affected parties are encouraged to provide comment and information on the issues raised in the report. The comments and information provided during this consultation will be considered during the 2<sup>nd</sup> Assessment stage of the Proposal when a preferred option will be proposed.

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