**Who is Australian Pork Limited?**

Australian Pork Limited (APL) is the producer-owned organisation supporting and promoting the Australian pork industry.

APL is a unique rural industry service body for the Australian pork industry. It is a producer-owned company delivering integrated services that enhance the viability of Australia’s pig producers. The organisation aims to enhance opportunities for the sustainable growth of the Australian pork industry by delivering integrated marketing, innovation and policy services along the pork industry supply chain. APL pursues opportunities for the industry at both the domestic and international level.

APL was formally registered as a company on 23 May 2000 following extensive industry consultation and the overwhelming support of Australian pork producers.

APL represents the coming together of three legacy organisations, the Australian Pork Corporation; the Pig Research and Development Corporation; and the Pork Council of Australia.

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- pork.com.au
- porkbutchers.com.au
- porkstar.com.au
- aussiepigfarmers.com.au
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Get some pork on your fork

Australian pork is incredibly versatile and offers perfect cuts from nose to tail. We’re proud that pork consumption continues to rise in Australia, with it now the second most consumed protein behind chicken. This manual has been compiled to give you a snapshot of the Australian pig industry, how pigs are raised and how to break down a carcase into cuts.

The Australian pig industry is a world leader and, as such, information about it evolves quickly. To ensure what you’re reading is current and accurate, we’ve also included links to other resources you may find useful. This includes websites like www.porkstar.com.au; www.pork.com.au and www.aussiepigfarmers.com.au, which have more information about Aussie pork from paddock to plate.

Passionate farmers have worked hard to improve the eating quality of Australian pork, and now deliver a product that is being enjoyed by even the most discerning diners.

While some of the cuts presented in this manual will be familiar to you and your diners, others may not be. We hope you’ll be able to use this knowledge to expand your repertoire, get creative and show people just how versatile – and delicious – Aussie pork can be.
The Australian pork industry

Pork is the world’s most popular meat, being the protein of choice in Europe and Asia, as well as a major meat in North and South America. It’s also increasingly popular in Australia.

Pork has been in Australia since the First Fleet, but the industry has undergone many changes since this time. This includes the size of the herd, the areas they’re produced in and the evolution of more intensive piggeries.

Today, most production comes from herds of 100 or more breeding sows. Of that, most pork is sold as fresh meat, with around 30 per cent processed into ham, bacon and smallgoods.

For more information about the industry and pig production in Australia, visit australianpork.com.au and aussiepigfarmers.com.au.

Feeding

Quality pork is guaranteed when producers use modern feeding and management techniques. Many years of nutritional research has led to a detailed knowledge of the pig’s nutrient requirements at all different ages. Consequently, rations are formulated, to suit the specific requirements of a pig to suit its stage of growth and breeding, at a minimum cost. Meeting the nutritional requirements maintains the health and well-being of the pig and allows the animal to grow with maximum efficiency.

How often a pig is fed varies, depending on the piggery. Some may feed once a day, several times a day, or have feed available at all times. In some larger piggeries feeding is automated. Almost all feed is fed to pigs in a dry form, either as mash (loose but dry) or pellets.

Feed accounts for approximately 65% of the cost of pig meat production. It takes approximately between 3.5-4 kilograms of feed to produce a kilogram of pork.

Pig feed is made up of a variety of grains, vitamins and minerals. Grains, such as wheat, barley, sorghum and triticale may form up to 80% of a feed mixture, are the main energy source for pigs, and also provide some portion of the protein requirements. However, the greatest proportion of protein (which is essential for growth) is supplied by protein-rich foodstuffs, such as: soybean meal, canola, field peas, lupins and meat meal.

Protein levels in pig diets can vary from about 14-20%, depending on the age and breeding stage of the pig. Younger pigs and sows feeding piglets tend to need much higher levels of protein than pigs at other stages of production.

Pig feed rations are either prepared on the farm by the producer or purchased from a feed mill. Regardless of whether the feeds are prepared on farm or by a commercial mill, diets are made to the farm’s specifications, which are usually formulated by a specialist pig nutritionist. Commercially prepared feeds are often conveyed in bulk direct from the manufacturer to the producer’s silos.
Pig care is extremely important to Australian pig farmers. They have a strong commitment to the care of their animals and are constantly working towards improvements in this area. Additionally, not only do Australian farmers fundamentally care about their animals, but also as a food producing industry, Australian pig farmers must pay attention to the welfare needs of their stock to meet food quality and safety requirements.

The Australian pork industry takes animal welfare very seriously. Every year the industry invests a lot of time, effort and money in researching ways in which pig care can be improved and is actively involved in the education and training of stock-people.

Breeding and farming

A variety of pig production systems are currently used in the Australian pork industry, however, there is no single ideal system in which the facility alone can meet all of the needs of the animal.

Australian pig farmers will either raise their pigs in a “farrow to finish” operation on one site, where all pigs are looked after, or alternatively, raise their pigs on multiple sites, which house pigs at different stages of production.

In a conventional system, pigs are usually housed through their growth and reproductive stages in specialised indoor sheds. A shed that houses pregnant sows is called a dry sow shed. When the pregnant sow is ready to give birth to her piglets, she is then moved to a special birthing or “farrowing” area (known as a piglet protection pen). After she gives birth, the sow and her piglets remain in this area for up to four weeks. When the piglets are weaned, the sow is taken to a mating shed or paddock and the weaned piglets are taken to a weaner shed.

Sometimes, dry sows may also be kept outdoors, but this is only possible in a limited number of situations, where the climate is mild and soils are free-draining. Most of Australia’s climates and soils are not suitable for rearing pigs outdoors; the more temperate areas of Australia (Tasmania, southern Victoria, and southern West Australia) are most suitable for an outdoor production unit. Additionally, topography and soil type are important considerations as they not only affect the health and well-being of the animals, but they also affect the producer and stockperson’s access to the animals.
Housing

Housing systems for pigs are continuously evolving to improve production efficiency, herd health and productivity. Farmers are committed to developing new alternatives and providing increased welfare and comfort for their pigs. In the past five years (2011-2016), more than $1.3 million has been invested in pig care research by APL.

Housing systems for pigs from birth to weaning, and for lactating and weaned sows, are generally managed on an all-in all-out (AIO) basis, keeping pigs of similar age within a common environment. Pigs in high health status herds are generally weaned in batches, with the age variation within batches being no more than 7-14 days. Each batch is treated as a distinct unit and reared in an AIO managed site, for example separate sheds or straw based shelters.

An AIO rearing system minimises the potential transfer of disease from older to younger pigs, which helps in the maintenance of the herd’s health status. With AIO rearing, the facilities are designed or altered to allow a separate airflow for each batch of pigs. When each batch is moved, each shed or eco-shelter is completely emptied, washed, cleaned and disinfected before the next group of pigs is moved in to the accommodation. Cleaning prior to disinfection exposes the bacteria to the disinfectant. Disinfection is important because it reduces the pathogen load in the piggery environment which decreases the risk of disease. Cleaning and disinfection between each batch of pigs is a major component in disease control and therefore is also good welfare practice.

The three main options for housing pigs are:

1. Free Range | where all sows, boars and their piglets live outside
2. Outdoor Bred | Raised indoors on straw – sows and boars live outside all of the life, and their progeny, when weaned are brought inside into shelters and raised on straw
3. Indoor | Where all sows, boars and progeny live inside

The Australian pork industry is fortunate to be free of many of the pig diseases that are present in other parts of the world. This means that fewer medications are needed to manage pig health. The high health status of Australian farms means that the access of people and animals on pig farms must be restricted, to ensure that animals are kept healthy. These restrictions are known as “biosecurity” precautions. Healthy animals, whose welfare is carefully respected, result in safe, wholesome, high quality pork products.
Gestation

Farmers oversee the entire breeding process to ensure the sow is receptive and successfully bred. A gilt (a young, unbred female pig) is usually eight months old before she is ready for breeding. They are normally housed in the breeding area in groups of 3-25 pigs per pen. When gilts or sows (female pigs that have given birth) enter oestrus in their reproductive cycles they are ready to be bred – mature female pigs cycle approximately every 21 days.

As pigs are very social animals, sows are kept either in groups, or individually but with close contact with their neighbours. They do have a strong social hierarchy and sometimes fight amongst themselves to establish who is dominant or subordinate in a group situation. Male pigs, or boars used for breeding, are usually penned individually, so they don't fight.

Increasingly, producers are using artificial insemination (AI), which eliminates disease risk and can produce excellent pregnancy results. Larger farms may rely exclusively on AI in their breeding programs. AI is also much easier on the sow and actually promotes sow welfare, as some boars can be very aggressive, are quite big and heavy, and may injure the sow.

Piggery managers keep records of sow and boar performance in a book or computer program. Pregnancy tests are usually conducted four to five weeks post-mating by ultrasound or another pregnancy testing method and, if sows are not pregnant, they are returned to the breeding area. Being able to conduct pregnancy tests greatly increases farm productivity, as it allows the farmer to manage the sows which are not pregnant in a much more efficient way.

Farmers take care to minimise sow stress and to protect their sows from being jostled or injured by their herd mates during the first 30 days of pregnancy, because of the high risk of miscarriage. The length of a sow’s pregnancy is three months, three weeks and three days, or 115 days, and an average sow will usually have two litters of piglets each year.
In the past, producers have used individual pens to protect sows after mating, because pigs can be extremely aggressive animals, especially during the early stages of pregnancy. These stalls allow sows to get enough food and water, ensure they aren’t bullied, bitten and injured, and to reduce stress to the sow. However, as these stalls also don’t provide sows with freedom of movement, Australian producers made the world-leading decision to voluntarily transition to a sow stall free status. This means sows and gilts must be kept in loose housing from five days after mating until one week before giving birth. Loose housing can take a number of forms, but the sow must have freedom of movement, including the ability to turn around and extend her limbs. Today four out of five sows are loose housed and Australian producers continue to transition to sow stall free status and updates and more information are available at

In addition, the Model Code of Practice for Animal Welfare: Pigs, from 2017, requires sows not be confined for longer than six weeks, or around one third of pregnancy. This code has been adopted by all Australian state and territory governments and is now a legal requirement, except in Tasmanian and Australian Capital Territory where governments banned the use of sow stalls several years ago.

**Farrowing**

Once the sow begins to farrow, the whole litter is born within a few hours. The farmer keeps a close record of when piglets are born. Very shortly after birth, piglets will nurse. A heat lamp or heat pad, and a warm farrowing room temperature ensures piglet comfort.

Sows are moved to farrowing sheds approximately one week prior to giving birth. A piglet protection pen may be used to restrain the sow and contain her piglets within a small, warm and protected area. It provides creep areas (or escape areas) along either side for the piglets. Adjustable rails alongside the sow slow her movement when she lays down, thus protecting piglets from being crushed.

Piglet protection pens have:

- Reduced the high level of piglet mortality for sows in outdoor and indoor farrowing systems.
- Improved hygiene standards.
- Controlled sow movement to reduce the crushing of piglets. The pen also protects workers from the sow defending her nest and litter.

Allowed for a smaller piglet area (the creep area) within the pen for the exclusive use of piglets.
**Piglets**

Piglets are moved from the farrowing rooms at weaning, which occurs at anywhere between 21 to 28 days of age, depending on the producer’s system. The weaned piglets, or “weaners”, are housed in nursery pens. Farmers continue to provide very warm temperatures for these pigs. Weaners are sorted by size and/or sex, and are provided with fresh water and feed at all times. They remain in nursery pens until they are five to 10 weeks old. They are then moved to a grower area.

**Growers / finishers**

Weaned and grower pigs are usually group-housed in pens of 5-200 pigs per pen. In well ventilated sheds, pigs will instinctively select clean and dry areas for sleeping, resting and feeding. Pigs are very clean animals and choose to defecate in an area separate to their feeding area.

**Transport**

When pigs reach market weight of 60-110kg, they are loaded onto well-ventilated trucks for transport to market. The number of pigs in the load is carefully calculated, taking into consideration animal size, truck size, travel distance, temperature and pig comfort. Transportation of pigs follows the Australian Animal Welfare Standards and Guidelines Land Transport of Livestock.

**Animal care and health**

The great majority of producers have a veterinarian consultant, who provides direction and assistance in health matters. APL also provides farmers with information on animal care issues to ensure the food they produce meets the highest animal welfare, health and food safety standards.

**Stockmanship**

It is recognised internationally that the most important factor for ensuring good animal welfare is stockmanship. APL believes this plays a critically important role in the process of producing pigs and, without proper training, this may be compromised.

Stockmanship and handling is central to training programs that APL has developed and has been running throughout the country over many years. APL will continue to significantly invest in this area to run and expand these programs.
Elective husbandry procedures

Castration

Australia is one of the few countries in the world that does not routinely surgically castrate all male pigs. It is the producer’s decision and is dependent on producer’s management systems and the requirements of the customers that the producer is supplying.

Castration prevents the development of undesirable flavour and odour characteristics of the meat that are rejected by consumers.

Ear notching

Ear notching is one method used for the identification of pigs on-farm and may, or may not, be used. Ear notching, or tagging, allows identification of individual pigs, so that its various production traits and welfare can be monitored.

Teeth clipping

Teeth clipping, when done correctly, prevents injury to litter mates and udders of nursing sows and is usually only carried out under veterinary recommendations on particular farms.

Tail docking

Tail biting is a common problem in all production systems and the practice of tail docking is done as a preventive measure to reduce injuries.

Diet

Australian pigs are fed specially designed grain-based rations. To ensure a balanced diet and the nutritional requirements of the animals are met, vitamins and mineral supplements are included in the pig’s diet.

Antibiotics

Antibiotics are sometimes used to treat specific diseases and conditions. Their use is governed by very strict government regulations and is closely monitored. Only the pig veterinarian that consults to the farm is permitted to prescribe the antibiotics that are used on farm. Just like humans and their doctors, farmers need this connection with their vet to be able to purchase or use antibiotics. These antibiotics may be given by injection, or placed in the pig’s feed or water.
Withdrawal periods must be adhered to, to ensure market pigs are free of antibiotics before market. Pork is tested by the Australian Government’s National Residue Survey to ensure that absolutely no residues in the meat enter the human food chain.

The future

The livelihoods of pig producers are dependent on the well-being and performance of their livestock. To do anything short of providing the best humane care possible is self-defeating. Producers regard taking care of their animals as an ethical responsibility, as well as a necessary business practice.

The Australian pig industry looks to the future as an opportunity to continue to build upon its reputation as a leader in animal welfare initiatives and environmental stewardship.

The Australian pork industry and the environment

The Australian pork industry is a leader in environmental stewardship. Its strong focus on driving innovation and its adoption of environmental practices through new and emerging technologies, such as biogas systems and nutrient mapping, has contributed significantly to reduce the pork industry’s eco footprint and improve producer profitability.

The Australian pork industry invests in research and extension on numerous topics including nutrient and land management, by-product reuse, alternative waste management, soil health and renewable energy. It is even investing in technologies to produce valuable feed and fertiliser from waste products and algae, as well as utilising some of the best researchers and universities in Australia.
Although greenhouse gas emissions produced by the pork sector are significantly lower than other agricultural sectors such as beef cattle, dairy and sheep, the industry is proactively investing in renewable energy technologies and strategies to reduce our emissions. Mitigation options, such as biogas (28% of available production), put the Australian pork industry in a position to have the lowest global-warming potential for pork produced worldwide. For example, a 500-sow piggery has the potential to produce enough energy to power 3.1 million 100-watt globes for one hour, or produce enough electricity to run 62 average houses for one year. If combusted and destroyed, it would eliminate the equivalent of the fossil fuel greenhouse gas emissions from 458 small cars travelling 20,000km/per year, burning 7L/100km.

The Australian pork industry addresses all of its environmental risks and objectives in the National Environmental Guidelines for Piggeries, relating to both conventional and outdoor pig production. These guidelines set out the industry’s expectations and best management practices, to maintain and improve the environment on pig farms while minimising impacts on the surrounding community.

The Australian pork industry is so much more than just a commodity producer. Pork has the potential to be the most emission friendly animal protein source of the future.

Pig welfare codes


This new edition of the Code is intended as a guide for all people responsible for the welfare of pigs under both intensive, deep litter and outdoor systems. Good welfare of farmed pigs will ensure that pigs cope well in their environment and that factors such as growth, reproductive performance, disease levels, injuries and death rates are within industry standards. + Full description

The Code recognises that the basic requirement for the welfare of pigs is a husbandry system, managed by trained and skilled stock-people to ensure that basic needs of pigs are met:

• Readily accessible appropriate and sufficient food and water
• Adequate shelter to protect from climatic extremes
• Opportunity to display appropriate patterns of behaviour
• Physical handling in a manner which minimises the likelihood of unreasonable or unnecessary pain or distress
• Protection from, and/or rapid diagnosis and correct treatment of injury or disease
• Freedom for necessary movement including to stand, stretch and lie down
• Visual and social contact with other pigs

This Model Code of Practice for the Welfare of Animals has been prepared by the Animal Welfare Working Group (AWWG) for the Primary Industries Ministerial Council (PIMC). The AWWG is made up of representatives from CSIRO, Animal Health Australia, the Department of Agriculture, Fisheries and Forestry - Australia, and from each of the State Departments responsible for agriculture. Extensive consultation has taken place with industry and animal welfare organisations in the development of the Code.

State and territory animal welfare legislation

The state and territory governments have the principal responsibility for animal welfare. Each state and territory government has an Animal Welfare Advisory Committee (AWAC) that provides advice on animal welfare issues and on associated legislation. State and territory government officers are responsible for the implementation of the provisions of animal welfare legislation. Additionally, in many cases, designated officers of the Royal Society for the Prevention of Cruelty to Animals (RSPCA) also have authority to prosecute offenders.

State-based animal welfare links

For more information, go to the following sites:

- [www.animalwelfare.net.au](http://www.animalwelfare.net.au)
- State agriculture departments
The Australian Pork Industry Quality Assurance System APIQ®

The Australian Pork Industry Quality Assurance Program (APIQ®) provides the framework and standards for Australian producers to demonstrate they are responsible farmers who care for their animals, the environment and their customers, by following safe and sustainable practices.

APIQ® is an on-farm quality assurance system. It is based on managing farm risks by following Good Agricultural Practices (GAP), using the principles of Hazard Analysis and managing Critical Control Points (HACCP). APIQ® also incorporates the legal requirements for pig producers to ensure their compliance with state government legislation and supply chain requirements.

More than 90 per cent of the Australian sow herd is produced under APIQ®, including free range and outdoor bred raised indoors on straw certified production systems. Visit our APIQ® website for more information.

Traceability

The Australian pork industry has a number of integrated systems in place to ensure farm to fork traceability. PigPass is a national tracking system which provides real time information on the movements of all pigs in Australia. This enables authorities to quickly determine the source of a disease outbreak and notify people with pigs in the affected area to stop the spread of disease. The PigPass National Vendor Declaration (NVD) is a declaration by the producer on the husbandry practices existing on the farm from which the animals were sourced. The PigPass NVD must be completed by the producer when pigs are moved from their property.

Physi-Trace is a PigPass validation and trace-back tool developed to enhance rapid traceability of pork and pork products in the event of an incident which threatens the food supply chain. Physi-Trace involves regular sampling and trace elemental analysis of fresh meat samples of known origin from participating abattoirs, to establish a database against which data associated with questioned samples may be compared, facilitating identification of the farm of origin. Physi-Trace can also be used to ensure that customer requirements in relation to credence values, both in our domestic and export markets, are being met, and can verify whether processed ham and bacon is made from Australian pork, or not.

Physi-Trace is a valuable, world-first tool that underpins Australian pork and pork products in both our international and domestic markets.

PorkMark

The pink PorkMark logo was introduced to help consumers in the absence of clear and robust Country of Origin Labelling. It is used on 100% Aussie fresh and processed pork. While all fresh
The slaughter process used in all Australian abattoirs complies with the Australian Standard for the Hygienic Production and Transportation of Meat and Meat Products for Human Consumption (AS4696:2007). The Department of Agriculture and Water Resources has responsibility for export abattoirs, and state authorities have the responsibility for domestic abattoirs. The process is humane, efficient and hygienic.

A basic description of each step of the slaughter process is outlined below.

**Stunning: CO₂ or electrical**
All animals must be humanely stunned before slaughter to ensure that the animal is rendered unconscious and insensible to pain before sticking and does not regain consciousness or sensibility before dying. Most large abattoirs now use CO₂ stunning which is carried out by trained operators. The stunning method used must ensure operator safety.

**Sticking and bleeding**
Sticking is the term used to refer to the severing of the anterior vena cava, to expel most of the blood from the carcase. The unconscious pig dies as a result of this rapid blood loss.

**Scalding**
To assist with the removal of hair from the carcase, the pig carcase is typically transferred to a scald tank where it is immersed for approximately five minutes at 60°C. Condensation systems using steam may also be used.

**Dehairing and singeing**
From the scald tank, the carcase is placed in a dehairing machine that resembles a large tumble drier; the pigs are flailed with beaters to mechanically remove the hair. Following dehairing,
any remaining hair is burnt off by either handheld or fixed flame gas jets, a process known as singeing. After singeing, a number of polishing or shaving devices may be applied to remove singed and remaining hairs.

**Evisceration**

Evisceration is the removal of all internal organs and the intestinal tract. Inspection of the main organs and carcase takes place to ensure the carcase is free from disease and parasites and safe for human consumption.

**Trimming**

Further trimming of the carcase is performed to ensure it is clean and free from foreign bodies, clots and other parts of the carcase that may not have been adequately removed earlier.

**Grading (weighing)**

The carcase is weighed and the fat depth is measured at the P2 site, as part of the grading process. The P2 site is located 59mm from the midline of the carcase lateral to the head, and immediately from the caudal to the last rib on either side of the carcase. A carcase ticket may then be applied which contains a range of information (see Aus-Meat section, page 31).

**Washing**

The carcase is then washed to ensure hygiene. It also removes saw dust (if the carcase has been split, which can be a good medium for microorganisms to multiply and reduce shelf life) and singed hair etc.

**Chilling**

The carcase is then transferred to a chiller where it is chilled. Chiller settings used vary between processors in terms of temperature decline in line with time.

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**Eating quality**

The flavour, tenderness, juiciness and aroma of pork all contribute to its eating quality. These characteristics can be influenced at different stages during pork production and processing. Decisions made at one stage may impact on opportunities to improve pork quality at later stages.

Although ownership and control of the product may change along the pork supply chain, recent research by APL has shown that when producers, processors, retailers, chefs and cooks work together, the eating quality of the pork improves. Improved eating quality will significantly improve the pork purchasing frequency by consumers.

Each step in the following list will have an independent effect on the improvement of eating quality. The more steps that can be implemented over more stages, the larger the overall impact on eating quality.

However, some steps have a greater impact than others.
The following section sets out the major factors that can affect pork eating quality: more stars indicate a greater impact on eating quality.

<table>
<thead>
<tr>
<th>Stage of production</th>
<th>Impact</th>
<th>Step</th>
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<tbody>
<tr>
<td>Genetics</td>
<td>**</td>
<td>Can be selected for more intramuscular fat.</td>
</tr>
<tr>
<td>Gender</td>
<td>***</td>
<td>Manages market preference for males and females. Male castration (immunologically or physically depending on market) minimises risks associated with boar taint.</td>
</tr>
<tr>
<td>Diet</td>
<td>**</td>
<td>Manages risks to eating quality of dietary ingredients and additives.</td>
</tr>
</tbody>
</table>
| On-farm and transport and handling | ** | Clean housing before sending pigs to market reduces the risk of boar taint. Positive handling of pigs on-farm and during transport includes:  
  • Minimising pre-slaughter stresses by not mixing unfamiliar pigs for at least seven days before market.  
  • Handling sick pigs separately.  
  • Checking design of loading facility.  
  • Not using electric prods. |

Opportunities for pig producers to contribute to improved pork eating quality

To meet the market specifications of processors, pork producers may select leaner genotypes, use entire (non-castrated) males and use dietary supplements to improve growth performance. However, these strategies do not necessarily address the consumer demand for consistent and excellent quality of pork.

While the largest effects on pork eating quality stem from decisions made at the consumer end of the chain, the basis for pork quality is established by producer decisions on issues such as the breed, sex and diet of the pig.

Genetics

In Australia, the majority of commercial pig breeds produced for slaughter are; Large White, Landrace and Large White/Landrace crosses, with a proportion of Duroc.

Higher levels of intramuscular fat (marbling) in pork improves the flavour, juiciness, and to some extent, the tenderness of the meat. The production of leaner, fast growing pigs in Australia, to meet market and consumer preferences for leaner pork over the past 30 years, has resulted in intramuscular fat levels in pork loin of 1-1.5 percent; less than the levels reported of 2–2.5 percent for the optimum eating quality of pork. The fast growing white pig breeds (Large White, Landrace, and Yorkshire) generally have lower levels of intramuscular fat compared with the darker skinned breeds, such as Duroc. Although Duroc pigs may produce pork with higher intramuscular fat levels, this has not been found to be strongly associated with improved meat quality.

In Australia, rare breeds, including Berkshires, may produce pork that is more tender and juicier than pork from ‘white’ commercial genotypes. This may be due to slower growth rates and increased fat content at any given live-weight (compared with ‘white’ and Duroc breeds). Additionally, these animals have not been subjected to intense selection for growth performance traits.
Commercial supply arrangements that are in place with major Australian domestic retailers do not allow the use of dark haired genotypes, limiting the inclusion of slaughter lines to ≥50 percent Durocs. Furthermore, the Australian pig herd is closed to the importation of live animals and genetic material to protect the Australian pork industry’s biosecurity status.

**Pig gender**

Boar taint in pork, that is an unpleasant perspiration, with a faecal/urine-like odour and/or flavour, may be experienced with meat obtained from some sexually developing entire males and is most noticeable during cooking.

The only effective method to eliminate any risk of boar taint is the castration of male pigs. Surgical and immunological castration methods may be used by Australian pork producers. While these methods are equally effective, the choice of method is influenced by factors such as convenience, cost and market acceptance.

Improvac® is a vaccine that was developed in Australia for the elimination of boar taint (immunological castration). To be effective, pigs must be vaccinated twice with Improvac®, with the second dose administered around four weeks before slaughter. Boar taint vaccinated males produce pork of equivalent quality to females and surgically castrated males, and of superior quality to that from entire males. Boar taint vaccination can reduce the incidence of unwanted aggressive and sexual behaviours compared with entire male, non-vaccinated pigs – presenting significant welfare benefits on farm.

Procedures for surgical castration are included in The Model Code. To meet the welfare requirements of APIQv® (Australian Pork Industry Quality Assurance Program), producers who castrate pigs surgically need to comply with the following code requirements for castration:

- If surgical castration is considered necessary in order for market and consumer requirements to be met, it should be performed by a trained and competent operator.
- Good post-operational drainage of the surgical wound is essential.
- It is recommended that piglets be castrated after two days of age, after they have established their suckling order, and before seven days of age. When pigs who are 8-21 days of age are castrated, appropriate and effective restraint is necessary.
- Surgical castration of male pigs older than 21 days, or surgical procedures that render a male pig over 21 days of age sterile, must be performed under anaesthesia and by a veterinary practitioner.

Due to differences in their performance and nutritional requirements, producers should be aware that the castrated pig (barrow) must be managed differently to the entire male.
Nutrition

As a pig grows around 600–650 grams a day on average, it will require a scientifically formulated diet. A pig nutritionist tailors the diet to the pig’s phase of growth or reproduction, specifically considering age, weight, sex, genotype and environment. This ensures every pig is well fed and looked after.

A balanced diet will depend on the life stage of the pig. Pigs require energy, protein, amino acids and lysine to meet their needs for maintenance, growth, reproduction, lactation, and other functions. Until weaned, piglets will consume a diet based on sow’s milk – fats and lactose. Younger pigs need a diet higher in amino acids than older pigs so they can grow proportionally more muscle tissue. Young pigs also have a small stomach capacity and need more nutrient dense diets.

The diet fed to pigs will determine the health of the pig and the quality of the meat. Pigs must be fed a highly digestible, functional and nutritious diet. This is usually cereal based, with grains such as sorghum, wheat and barley.

On-farm and pre-slaughter handling

Housing

To reduce risks to eating quality resulting from adverse taints in pork, pigs should be housed in clean, dry pens before slaughter. No differences in eating quality have been reported when pigs are raised in outdoor systems compared with conventional indoor systems – any differences that may be seen could be due to diet or growth rate differences, rather than housing alone.

Stress management

The eating quality of pork improves when stress levels in pigs are kept to a minimum through optimum handling and mixing techniques on the farm, during transportation, and at the abattoir before slaughter. Unfamiliar pigs should not be mixed for at least seven days before market. Where possible, groups of familiar pigs should be kept together during loading, transport and resting at the abattoir. To reduce pre-slaughter stress and the incidence of low pH pork, trained staff need to minimise the use of electric prodders, and races and ramps need to be designed well to move and load pigs effectively.

Processors

<table>
<thead>
<tr>
<th>Stage of production</th>
<th>Impact</th>
<th>Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-slaughter handling</td>
<td>**</td>
<td>Reduce stresses of pre-slaughter handling by:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Checking design of unloading ramps and resting yards.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Minimising handling.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Not using electric prods.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Removing feed 6-24 hours before slaughter.</td>
</tr>
<tr>
<td>Carcase handling</td>
<td>***</td>
<td>Use low voltage electrical stimulation of carcase.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hang carcases from the aitchbone.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manage chiller settings to avoid cold shortening.</td>
</tr>
<tr>
<td>Product preparation and ageing</td>
<td>****</td>
<td>Age meat for 2-7 days.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vacuum pack primal cuts.</td>
</tr>
<tr>
<td>Moisture infusion</td>
<td>****</td>
<td>Increases moisture of fresh pork to improve juiciness and tenderness.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Additional moisture provides ‘insurance’ against overcooking of pork by consumers.</td>
</tr>
</tbody>
</table>
Factors contributing to improved pork eating quality

Pre-slaughter handling

Stress management

Pork eating quality improves when stress levels in pigs are kept to a minimum. This is particularly important prior to slaughter, as the pigs have no time to recover from stress at this stage. Pigs should be:

- Removed from feed at least six hours, and no more than 24 hours, prior to slaughter.
- Subjected to no or minimal electric prodding.
- Kept together in farm/peer groups (i.e. not mixed with unfamiliar pigs in lairage).

Carcase handling

Electrical stimulation

Electrical stimulation effectively prevents cold shortening of the muscles caused from rapid chilling and can improve the tenderness of pork. Studies have shown that applying low-voltage, constant-current system (150mA) for 30 seconds within two minutes after slaughter, following CO₂ stunning, can improve pork eating quality. The system is sensitive to the level of applied current; higher current levels can reduce pork quality. Sufficient time is needed for electrical stimulation prior to entry of the carcases into the scald tank or dehairing unit. Importantly, the cost of this intervention is low.

Electrical stimulation of carcases has been shown to improve the consistency of pork eating quality, particularly when used in conjunction with ageing of pork.

Chilling

There must be careful control of the chiller temperature. Recommended temperature is 0-4 degrees eg fast correct chilling temperatures reduce two toned meat. PSE is also contributed to pre-slaughter stress and insufficient chilling times.

Carcase hanging

Hanging carcases from the aitchbone (also commonly known as ‘Tender stretching’) improves the eating quality of pork loin, silverside, rump and topside muscles compared with the conventional practice of hanging carcases from the Achilles tendon. This procedure stretches the muscles on the carcase.

Muscles from aitchbone-hung carcases, especially those in the hindquarter, can end up in shapes that retail butchers find unconventional. Additional labour costs and chiller space are required for carcases to be suspended in this way. It is possible to rehang aitchbone carcases to the Achilles tendon after 6–8 hours. This will make pork cuts a bit more square than regular Achilles-hung carcases, but they will be more acceptable than those that continue to be hung from the aitchbone until boning at 24 hours. At least one UK supermarket chain used the changed shape of muscles to ensure that carcases have been aitchbone-hung to their specifications, and presented ‘new’ muscle-based cuts to consumers.
Product preparation and ageing

Ageing can improve the tenderness of pork. The whole carcase can be aged, but ageing for more than five days is best done in vacuum packaging systems.

Moisture infusion

Pork eating quality can be improved by injecting a diluted brine solution into individual cuts of muscles. This produces high quality pork, which many consumers rate higher for eating quality.

Moisture infusion consistently produces high quality pork. Consumers’ rate moisture infused pork cuts higher for eating quality than pork that has been: aitchbone hung, electrically stimulated or aged for 7-14 days post-slaughter. However, it is not a method to improve the eating quality performance of low quality pork.
Cooking

Australian consumers prefer their pork to be cooked all the way through, rather than pink in the middle. Pork tends to be overcooked by Australian consumers due to unfounded food safety concerns associated with cooking pork to a rare, medium-rare or medium degree of doneness. Pork eating quality is influenced by endpoint temperature – overcooking can significantly reduce both tenderness and juiciness scores, reflecting increased moisture loss. Recent studies have shown that consumer scores for tenderness, juiciness and overall liking of loin medallion steaks cooked to a final internal temperature of 70°C were higher than those cooked to 75°C. Cooking, however, is one factor which the Australian pork industry has very little control over, except through marketing efforts to communicate to pork consumers how to cook different pork cuts. The 6-2-2 cookery method is a perfect example of how to cook a loin steak cut to 20mm.

Cooking guidelines to improve pork eating quality

It is a myth that pork needs to be cooked well done for it to be safe. If pork is over cooked then it will be dry, tough and lack flavour. The consumer needs to be educated on how to cook pork to achieve a great eating experience.

In general, cuts from the loin, leg and fillet are leaner than cuts from the forequarter. Cuts with a higher level of subcutaneous or intramuscular fat may tolerate longer cooking than leaner cuts due to the insulating effect of fat. Leaner cuts generally have less margin for error and are more likely to dry out during the cooking process. Reduced cooking time or the addition of a marinade can help in this area.

Cooking times for pork will vary depending on: the cut, the thickness, whether the bone is left in, the cooking method and the type of oven or cooking equipment used. Accordingly, any recommendation will try to allow for some variation, but they are still only guides. Cuts with the bone in, particularly if the bone stretches the length of the cut (as is the case with loin chops or bone in roasts), cook slower than cuts with no bone. The recommendation for pan frying, grilling or barbequing 2cm thick boneless steaks is six minutes on one side, two minutes on the other side and rest for two minutes before serving.

From a scientific point of view, pork should be cooked to reach an internal end-point temperature between 65°C and 71°C. Between these temperatures pork is at its juiciest, with maximum flavour and tenderness. For food safety, if aiming for an internal temperature lower than 65°C the recommendation is that the internal temperature is held above 61°C http://www.foodauthority.nsw.gov.au/foodsafetyandyou/food-at-home/cooking-temperatures. Keep in mind the final minutes of cooking are important as internal temperatures may increase quickly once an internal temperature of 65°C is reached.

A meat thermometer is an excellent tool to ensure pork is cooked to optimum internal temperature. However, as consumers do not generally use thermometers, they need general advice on how to cook, and on the appearance of correctly cooked meat. At an internal end-point temperature of 65°C, pork may have a slight pink colour in the centre of the meat (“blush of pink”) — consumers need reassurance that pork with this appearance is acceptable.
Cooking recommendations

The recommendation is that pork should be cooked to an internal temperature of 65°C and then rested under cover for five minutes during which time the internal temperature will rise to 69°C.

Remember:

- It is a myth that pork needs to be cooked well done in order to be safe. As there are cuts of pork which are very lean, overcooking can result in a dry and tough eating experience.
- To enjoy pork juicy and tender, cook until just white or with a faint hint of pink in the centre.

General cooking advice and hints

While the times are approximate, as individual meat weight and thickness varies, here are some general advice and hints:

- Remove meat from refrigerator and allow to reach room temperature.
- Preheat pan/oven/grill before cooking.
- When cooking in a pan, turn frequently to desired degree of doneness
- Avoid frequent prodding of the meat while cooking.
- It is a good investment to buy and use a kitchen meat thermometer particularly for roasts. If checking with an internal meat thermometer, do not let the thermometer touch the bone.
- Always cut meat across the grain to keep it tender.
- Pork should be cooked to just white or have a faint hint of pink in the middle (except for sausages and mince).
- Pork mince is a great alternative to use when cooking any mince dish.
- Marinating can help add extra flavour and tenderness.
Cooking method

Panfry, BBQ or grill

Steaks (2cm thick)
6 minutes on one side, 2 minutes on the other side, rest for 2 minutes before serving.

Chops and cutlets
Medium heat, 3-4 minutes per side depending on thickness.

Spare ribs
Medium heat, 7–10 minutes each side.

Fillet
Medium heat, rolling onto each side for 3-4 minutes each, until there is just a hint of pink in the middle.

Sausages and mince rissoles
Medium heat, 4-6 minutes until cooked through.

Crumbed schnitzels
High heat for a minute per side until browned.

Kebabs (diced)
Medium heat, 2 minutes per side.
Stir fry

Strips, diced, mince

Medium to high heat for 2-3 minutes until light brown.

Tips:
- Have all your ingredients chopped prior to commencing cooking.
- If preparing pork for stir fry from sub primals, always cut pork across the grain.
- Always have your wok nice and hot – you should be able to see a heat haze when it is ready to go. Be careful not to burn the oil as this may affect the taste of the meat.
- Always keep the heat in your wok – adding too much meat at the same time will lower cooking heat too much. It is better to cook in small batches (200g or less).

Braise, stew and casserole

Scotch steaks, forequarter chops, diced hocks, pork belly and ribs

Simmer liquid on low heat for a minimum of 2 hours. If slow cooking in the oven, use a covered oven proof dish and cook for an hour per kilogram at 150°C.

Tips:
- Slow-cooking methods are sensational for value priced cuts.
- Cut meat into even sizes to ensure heat dispersion.
- Meat can be seared or browned first in a pan if preferred.
- Natural fats and oils may settle on top of the dish during cooking. This can be scooped off as desired.
Roast

Roast with crackling

To cook the crispiest crackling, there are three things you need: heat, oil and salt.

1. Remove roast from packaging and pat dry with paper towel. With a small sharp knife, deeply score the rind at 1cm intervals, being careful not to cut into the meat. If time allows, leave the scored roast uncovered in the fridge for 1 hour, or ideally overnight. This process further dries out the rind and aids the crackling process.

2. When you’re ready to cook, put your pork on a wire rack in the sink and pour a jug of boiling water over the rind. Pat dry thoroughly with paper towel.

3. Rub the roast with 1 tablespoon of oil and half a tablespoon of salt (or more if you like salty crackling), making sure the oil and salt penetrate the scores.

4. Place the roast on a wire rack inside a baking tray and cook at 240°C (max 250°C conventional) until the rind crackles, up to 50 minutes. If the roast is over 2kg, take 10 minutes off this initial crackling time.

5. Turn the oven down to 180°C and cook for 30-35 minutes per kg, depending on how well you like your roast cooked.

6. Once cooked, let the roast rest for 10 minutes before slicing.

Note: to achieve great crackling, getting the oven temperature correct is critical. We recommend the use of an oven thermometer to verify that the stated oven temperature is accurate.

Roast without crackling

- Optional: sear first in a pan at high heat to seal in juices.
- Place in a preheated oven at 180°C and cook for 45 minutes per kilogram.
- Rest under foil for 5-10 minutes.

Tips:

- To check the doneness of a roast, pierce the thickest part. The juices should run pink to clear.
- Another way of checking if a roast is done is to test the internal temperature of the roast with a meat thermometer.
- The roast is cooked to rare when the temperature reaches 60°C, medium when the temperature reaches 65-70°C, and is well done at 75°C.
- It is important when cooking any pork to rest the meat before carving. This allows the meat to settle, keeping the juices in the meat.

Low and Slow

Charcoal | Smoking | Wrapping in peach paper – This cookery method is gaining popularity in Australia through the Australian BBQ Alliance.
Nutrition

The nutritional benefits of pork

Pork fillets are one of the leanest and tastiest fillets with a range of nutritional benefits. Specifically, pork fillets have less than half the fat of beef fillets, less fat than snapper fillets and are leaner than skinless chicken breast fillets. They’re also a valuable source of iron.

Pork fillets are tender and great value for money, as there is so little fat, nearly every gram of the product can be used.

Pork fillets are high in protein – of the cuts mentioned above, they contain the most protein per serve. Because they are so high in protein, they fill you up without weighing you down.

Pork fillets are a good source of B12, Niacin, B5, B6, Thiamine, Selenium, Zinc, Folate, Phosphorous and a valuable source of B7 and Magnesium.

Pork mini roast, leg steak and stir fry strips are also low in fat and valuable sources of iron. (Based on uncooked product, 200g serving)

Pork is a tasty part of a nutritious balanced diet. It contributes to a wide range of our daily nutritional needs.

Please refer to the [Food Standards Australia and New Zealand NUTTAB 2010](http://www.foodstandards.gov.au) database for the most up-to-date nutritional data for pork cuts.
Facts and fallacies: Busting the myths

Myth: Pork is a fatty meat

Fact: There are a number of pork cuts that, when trimmed of external fat, can be very lean. A 200g uncooked serving of lean, trimmed pork fillet, contains 2.2g of fat, which means pork fillets have less than half the fat of beef fillets, less fat than snapper fillets and are leaner than skinless chicken breast fillets. They’re also a valuable source of iron.

Myth: Pork needs to be cooked all the way through

Fact: The idea that Australian pork needs to be cooked all the way through is a myth. Captain Arthur Phillip obviously showed some of his farming background in selecting only healthy pigs to be transported to Australia. As a result, Australian pigs do not have the Trichinella spiralis parasite that causes trichinosis. So while it might feel unfamiliar, fresh Australian pork can be eaten medium, with a hint of pink.

Myth: Pork is difficult to cook

Fact: Pork can be quick and easy to cook. Take a 2cm boneless pork steak for example: preheat a pan, griddle pan or BBQ plate just like you would for any steak. Cook on one side without turning for six minutes. Turn it over once and cook for two more minutes. Then take the steak from the pan and rest on a plate for two minutes to allow the juices to settle for a tender and juicy steak.

Myth: Pigs are dirty animals

Fact: Pigs are very clean animals. They’re known for keeping separate areas for sleeping, eating and dunging. This myth is probably linked to their liking for mud, which is actually to keep them cool, as pigs don’t sweat.
Food safety

Food safety programs, based on Hazard analysis and critical control points (HACCP), are in place to minimise food borne risks to humans associated with the consumption of pork and pork products. This is done through monitoring and verifying process control procedures operating in processing plants during carcase processing and boning. Food safety is verified by Commonwealth or state regulators, depending on whether export or domestic certification is held by the processor. All Australian meat establishments must comply with the Australian Standard Hygienic Production and Transportation of Meat and Meat Products for Human Consumption (AS 4696:2007).

Food Standards Australia and New Zealand (FSANZ) developed Primary Production and Processing Standards for Meat in Australia to strengthen food safety and traceability throughout the food supply chain from paddock to plate. This standard, implemented in July 2015, enables regulators to investigate food safety matters through the entire meat supply chain if there is a food safety incident.

For further information on FSANZ visit their website: foodstandards.gov.au

HACCP

HACCP is a risk management tool used by food companies globally for identifying where things can go wrong, and to prevent problems from occurring.

There are seven key steps to the system:

1. Conduct a hazard analysis to identify potential hazards which could occur in the food production process.
2. Identify the critical control points. These are points in the process where potential hazards can be controlled and monitored.
3. Establish the critical limits for the process at each critical control point.
4. Establish ways to monitor the critical control points. This is to ensure targets are being met.
5. Determine the corrective action to be taken if monitoring indicates a critical control point is not within its established limits.
6. Establish record keeping procedures to demonstrate that the process is working properly. Records should document critical control point monitoring, verification activities, and deviation records.
7. Establish procedures for verifying the HACCP system is working properly. Verification procedures may include reviewing the HACCP plan, critical control point records, as well as microbiological testing.
Stay out of the danger zone

The key to understanding the concept of food safety is an understanding of how bacteria works. There are two types of bacteria – those that are useful and those that are harmful. Useful bacteria are nature’s cleaners which break down garbage and dead vegetation. Harmful bacteria are those that cause illness or food poisoning and are known as pathogens – *Salmonella*, some strains of *E. coli*, *Staphylococcus aureus* and *Listeria monocytogenes* are some of the more common pathogens.

Bacteria require nourishment, water and the right temperature to survive. Most bacteria will not multiply under temperatures of less than 5°C and only a few survive temperatures of greater than 74°C. The danger zone for bacteria growth is between 5°C and 60°C with optimum temperature for growth between 20°C and 45°C.

The following is a guide to temperature and the growth of bacteria: the right temperature and sufficient time are important factors for bacteria growth.

<table>
<thead>
<tr>
<th>Temperature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>100°C</td>
<td>Safe holding temperature</td>
</tr>
<tr>
<td>60°C</td>
<td>Bacteria multiply at or below this temperature.</td>
</tr>
<tr>
<td>5°C</td>
<td>Food poisoning bacteria multiply at and above this temperature.</td>
</tr>
<tr>
<td>4°C</td>
<td>Maximum storage temperature of chilled food.</td>
</tr>
<tr>
<td>0°C</td>
<td>Minimum refrigerator temperature.</td>
</tr>
<tr>
<td>-15°C</td>
<td>Is the upper limit storage temperature of frozen meat.</td>
</tr>
</tbody>
</table>

How fast does bacteria grow?

When given the right food at the right temperature (in the danger zone) food poisoning bacteria will grow very rapidly. Bacteria reproduce by dividing in half, so in optimum conditions one becomes two in about 20 minutes. In this way, one single bacterium in food can be 4,000 in only 4 hours and over 2 million in 7 hours.

This table shows how quickly one food bacterium can become many.

<table>
<thead>
<tr>
<th>Time</th>
<th>Number of bacteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00</td>
<td>1</td>
</tr>
<tr>
<td>12:20</td>
<td>2</td>
</tr>
<tr>
<td>12:40</td>
<td>4</td>
</tr>
<tr>
<td>1:00</td>
<td>8</td>
</tr>
<tr>
<td>2:00</td>
<td>64</td>
</tr>
<tr>
<td>3:00</td>
<td>512</td>
</tr>
<tr>
<td>4:00</td>
<td>4,096</td>
</tr>
<tr>
<td>5:00</td>
<td>32,768</td>
</tr>
<tr>
<td>6:00</td>
<td>262,144</td>
</tr>
<tr>
<td>7:00</td>
<td>2,097,152</td>
</tr>
</tbody>
</table>
Storage and handling

Correct handling and storage of fresh and frozen meat products will maximise shelf life. It is important to practise three easy steps to beat product spoilage:

1. Keep it clean.
2. Keep it cold.

How do I store chilled (fresh) pork?

The lower the temperature, the longer the shelf life.

The best results are achieved when chilled pork is stored at the recommended temperature of between 0°C and 4°C.

Below are nine steps that can be followed to ensure that chilled (fresh) pork products are maintained in optimum condition:

1. Maintain an accurate temperature gauge in your cool room at all times.
2. Keep cool rooms closed with exit and entry kept to a minimum.
3. Maximise cool room air flow by keeping the door tightly closed when not in use.
4. Keep the cool room dry, clean and sanitised on a regular basis.
5. Raw pork should not be in contact with other raw meat in the cool room.
6. Store raw pork fat side up in single layers wherever possible.
7. Raw and cooked pork should never come in contact.
8. All fresh pork items stored in cool rooms should be labelled and dated for regular stock rotation.
9. Chilled (fresh) pork must be transported in a Food safe approved licenced refrigerated vehicle capable of maintaining the pork at a recommended constant 0°C to 4°C. (not to exceed 7°C for whole carcase)

Storing frozen pork product

Freezing pork items extends the shelf life to between 6 and 12 months if the product is maintained at minus 18°C or below.

Below are seven steps that can be followed to ensure that frozen pork products are maintained in optimum condition:

1. Store pork items in a freezer at minus 18°C or below.
2. Pork should not be frozen in stacks or placed on top of one another as this extends the time layers take to freeze. Thicker cuts of pork will take longer to freeze.
3. Pork cuts should be sealed totally in plastic wrap to prevent drying and deterioration from freezer burn. Vacuum packing is preferred
4. Label and date all pork items placed in frozen storage and regularly rotate the stock.
5. Thaw frozen pork in a refrigerator at 0°C to 5°C. Do not thaw pork in warm water. Microwave thawing is acceptable if cooking immediately.
6. Once pork items are completely thawed use the product immediately.
7. Never re-freeze pork after it has been thawed.
# Pork categories

## Basic categories

<table>
<thead>
<tr>
<th>Pork</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female (gilt), barrow or entire male porcine. Females show no evidence of milk secretion</td>
<td></td>
</tr>
<tr>
<td>Males show no evidence of secondary sexual characteristics (SSC)</td>
<td></td>
</tr>
<tr>
<td>Sow pork</td>
<td>Female porcine with milk secretion</td>
</tr>
<tr>
<td>Boar pork</td>
<td>Male porcine</td>
</tr>
<tr>
<td></td>
<td>Showing evidence of SSC</td>
</tr>
</tbody>
</table>

## Definition

<table>
<thead>
<tr>
<th>Definition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrow</td>
<td>Castrated male pig</td>
</tr>
<tr>
<td>Gilt</td>
<td>A female that has not produced piglets or has not reached an evident stage of pregnancy</td>
</tr>
<tr>
<td>Secondary sexual characteristics (SSC)</td>
<td>Tusks</td>
</tr>
<tr>
<td></td>
<td>Scutum or shield on the forequarter</td>
</tr>
<tr>
<td></td>
<td>Strong sexual odour</td>
</tr>
<tr>
<td></td>
<td>Thickness of skin</td>
</tr>
<tr>
<td></td>
<td>Pronounced protractor muscle</td>
</tr>
<tr>
<td>HSCW</td>
<td>Hot Standard Carcase Weight</td>
</tr>
</tbody>
</table>

## Alternative categories

<table>
<thead>
<tr>
<th>Sucker pork</th>
<th>Porcine weighing up to 35kg (HSCW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gilt pork</td>
<td>Female porcine showing no evidence of milk secretion</td>
</tr>
<tr>
<td>Gilt light pork</td>
<td>Female porcine weighing up to 60kg (HSCW)</td>
</tr>
<tr>
<td></td>
<td>Showing no evidence of milk secretion</td>
</tr>
<tr>
<td>Gilt heavy pork</td>
<td>Female porcine weighing more than 60kg (HSCW)</td>
</tr>
<tr>
<td></td>
<td>Showing no evidence of milk secretion</td>
</tr>
<tr>
<td>Barrow pork</td>
<td>Barrow male porcine showing no evidence of SSC</td>
</tr>
<tr>
<td>Barrow light pork</td>
<td>Barrow male porcine weighing up to 60kg (HSCW)</td>
</tr>
<tr>
<td></td>
<td>Showing no evidence of SSC</td>
</tr>
<tr>
<td>Barrow heavy pork</td>
<td>Barrow male porcine weighing more than 60kg (HSCW)</td>
</tr>
<tr>
<td></td>
<td>Showing no evidence of SSC</td>
</tr>
<tr>
<td>Male light pork</td>
<td>Entire male porcine weighing up to 60kg (HSCW)</td>
</tr>
<tr>
<td></td>
<td>Showing no evidence of SSC</td>
</tr>
<tr>
<td>Male heavy pork</td>
<td>Entire male porcine weighing more than 60kg (HSCW)</td>
</tr>
<tr>
<td></td>
<td>Showing no evidence of SSC</td>
</tr>
</tbody>
</table>
AUS-MEAT Standard Carcase definition

All sectors of the Australian pig industry agreed on a “Standard Carcase” definition to ensure all producers and buyers throughout Australia have a standard by which to compare prices and carcase weights irrespective of the slaughter trim.

Pictured below is a carcase trimmed to the Standard Carcase definition. There are many combinations of carcase trim. A conversion factor is used to adjust carcase weights to the Standard Carcase Trim Number 1.

Other than sucker pork and skin-off carcases, a pigmeat carcase is the body of a slaughtered porcine animal after: bleeding; removal of all the internal digestive, respiratory, excretory, reproductive and circulatory organs and; minimum trimming (as required by meat inspection service for the carcase to be passed fit for human consumption). Also the removal of the:

- Hair and scurf.
- Hooves of the foretrotters and of the hindtrotters.
- Testes and penis.
- Ears, eyelids/lashes, facial hair and tongue.
- Kidneys and kidney fat.

The carcase must be weighed hot (hot standard carcase weight – HSCW).

AUS-MEAT accredited abattoirs may trim carcases to any one of 24 trim options. However operators must report all pig carcase weights in terms of the Standard Carcase definition – Trim Number 1 – to producers.
AUS-MEAT conversion factor

How the conversion factor works

<table>
<thead>
<tr>
<th>Example 1 – For under 60kg HSCW</th>
<th>Trim 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Diagram of pig showing trim options]</td>
<td>Head OFF, flares OUT, foretrotters OFF, hindtrotters ON.</td>
</tr>
<tr>
<td></td>
<td>Scale weight 48.5kg</td>
</tr>
<tr>
<td></td>
<td>x conversion factor 1.105</td>
</tr>
<tr>
<td></td>
<td>= Standard Carcase weight 53.6kg</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Example 2 – For over 60kg HSCW</th>
<th>Trim 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>[Diagram of pig showing trim options]</td>
<td>Head ON, flares IN, foretrotters OFF, hindtrotters ON.</td>
</tr>
<tr>
<td></td>
<td>Scale weight 61.5kg</td>
</tr>
<tr>
<td></td>
<td>x conversion factor 1.009</td>
</tr>
<tr>
<td></td>
<td>= Standard Carcase weight 62kg</td>
</tr>
</tbody>
</table>

The Standard Conversion chart has been developed for conversion of non-standard carcases back to the Standard Carcase definition. This means reporting of carcase weights to producers is on a uniform and comparable basis.

There are separate conversion charts for heavier pigs (over 60kg dressed weight) and lighter carcases (60 kg dressed weight and under).

Head removal and skull out

Where trim options specify “head off” or “skull out”, the following dressing procedures apply:

- **Head Off**: The head is removed between the occipital bone and the 1st cervical vertebrae by a square cut transversely across the neck muscles.
- **Skull Out**: A cut commencing at the lower jaw under the chin follows the jaw bone through to the neck joint, ensuring cheek muscles are retained on the jowl. The snout and portions of skin retained on the lower jaw near the mouth remain on the skull. The skull is removed by a cut through the occipital bone and the 1st cervical vertebrae.
### AUS-MEAT conversion factor grid

#### 60kg and Under (HSCW)

<table>
<thead>
<tr>
<th>Trim number</th>
<th>Head</th>
<th>Flares</th>
<th>Fore-trotters</th>
<th>Hind-trotters</th>
<th>Maximum* Scale Weight KG</th>
<th>Conversion Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ON</td>
<td>IN</td>
<td>ON</td>
<td>ON</td>
<td>60.0</td>
<td>1.000</td>
</tr>
<tr>
<td>2</td>
<td>ON</td>
<td>OUT</td>
<td>ON</td>
<td>ON</td>
<td>59.0</td>
<td>1.012</td>
</tr>
<tr>
<td>3</td>
<td>ON</td>
<td>IN</td>
<td>OFF</td>
<td>ON</td>
<td>59.5</td>
<td>1.011</td>
</tr>
<tr>
<td>4</td>
<td>ON</td>
<td>IN</td>
<td>ON</td>
<td>OFF</td>
<td>59.5</td>
<td>1.011</td>
</tr>
<tr>
<td>5</td>
<td>ON</td>
<td>OUT</td>
<td>OFF</td>
<td>ON</td>
<td>58.5</td>
<td>1.023</td>
</tr>
<tr>
<td>6</td>
<td>ON</td>
<td>OUT</td>
<td>ON</td>
<td>OFF</td>
<td>58.5</td>
<td>1.023</td>
</tr>
<tr>
<td>7</td>
<td>ON</td>
<td>IN</td>
<td>OFF</td>
<td>OFF</td>
<td>59.0</td>
<td>1.022</td>
</tr>
<tr>
<td>8</td>
<td>ON</td>
<td>OUT</td>
<td>OFF</td>
<td>OFF</td>
<td>58.01</td>
<td>1.035</td>
</tr>
<tr>
<td>9</td>
<td>OFF</td>
<td>IN</td>
<td>ON</td>
<td>ON</td>
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<td>1.078</td>
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<td>ON</td>
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<td>1.092</td>
</tr>
<tr>
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<td>IN</td>
<td>OFF</td>
<td>ON</td>
<td>55.5</td>
<td>1.091</td>
</tr>
<tr>
<td>12</td>
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<td>IN</td>
<td>ON</td>
<td>OFF</td>
<td>55.5</td>
<td>1.091</td>
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<tr>
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<td>ON</td>
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<td>1.105</td>
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<td>OFF</td>
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<td>1.105</td>
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<tr>
<td>15</td>
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<td>OFF</td>
<td>55.0</td>
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<td>16</td>
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<td>OFF</td>
<td>OFF</td>
<td>54.0</td>
<td>1.120</td>
</tr>
<tr>
<td>17</td>
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<td>IN</td>
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<td>ON</td>
<td>57.0</td>
<td>1.057</td>
</tr>
<tr>
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<td>OUT</td>
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<td>56.5</td>
<td>1.071</td>
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<tr>
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<td>ON</td>
<td>56.5</td>
<td>1.070</td>
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<td>ON</td>
<td>OFF</td>
<td>56.5</td>
<td>1.070</td>
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<tr>
<td>21</td>
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<td>OUT</td>
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<td>ON</td>
<td>56.0</td>
<td>1.083</td>
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<tr>
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<td>OUT</td>
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<td>OFF</td>
<td>56.0</td>
<td>1.083</td>
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<tr>
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<td>IN</td>
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<td>OFF</td>
<td>56.0</td>
<td>1.082</td>
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<tr>
<td>24</td>
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<td>OUT</td>
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<td>OFF</td>
<td>55.0</td>
<td>1.096</td>
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</tbody>
</table>

\*Maximum weight for which conversion factors apply
### Over 60kg (HSCW)

<table>
<thead>
<tr>
<th>Trim number</th>
<th>Head</th>
<th>Flares</th>
<th>Fore-trotters</th>
<th>Hind-trotters</th>
<th>Maximum* Scale Weight KG</th>
<th>Conversion Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ON</td>
<td>IN</td>
<td>ON</td>
<td>ON</td>
<td>60.1</td>
<td>1.000</td>
</tr>
<tr>
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<td>OUT</td>
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<td>ON</td>
<td>59.1</td>
<td>1.014</td>
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<td>59.6</td>
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<td>ON</td>
<td>OFF</td>
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<td>1.011</td>
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<tr>
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<td>OFF</td>
<td>ON</td>
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<td>1.023</td>
</tr>
<tr>
<td>6</td>
<td>ON</td>
<td>OUT</td>
<td>ON</td>
<td>OFF</td>
<td>58.6</td>
<td>1.023</td>
</tr>
<tr>
<td>7</td>
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<td>IN</td>
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<td>56.5</td>
<td>1.066</td>
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<td>1.061</td>
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<td>56.1</td>
<td>1.076</td>
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<td>OFF</td>
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<td>1.076</td>
</tr>
<tr>
<td>23</td>
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<td>OUT</td>
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<td>OFF</td>
<td>56.1</td>
<td>1.071</td>
</tr>
<tr>
<td>24</td>
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<td>OUT</td>
<td>OFF</td>
<td>OFF</td>
<td>55.1</td>
<td>1.087</td>
</tr>
</tbody>
</table>

*Maximum weight for which conversion factors apply*
AUS-MEAT weight and fat classes

Weight classification grid

Labelling options

Weight and fat classes (scores):

- Porcine carcases over 25kg (HSCW) may be classified into weight related fat classes.
- The weight classes are based on HSCW. The fat classes are decided by measuring the external fat covering, plus the skin at the P2 site.

The following table shows the relationship between the weight and fat classes:

<table>
<thead>
<tr>
<th>Weight Class Cipher</th>
<th>HSCW Kg</th>
<th>FAT CLASS CIPHERS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0</td>
</tr>
<tr>
<td>A</td>
<td>25.1 - 35</td>
<td>&lt; 7</td>
</tr>
<tr>
<td>B</td>
<td>35.1 - 40</td>
<td>&lt; 7</td>
</tr>
<tr>
<td>C</td>
<td>40.1 - 45</td>
<td>&lt; or = 7</td>
</tr>
<tr>
<td>D</td>
<td>45.1 - 50</td>
<td>&lt; or = 7</td>
</tr>
<tr>
<td>E</td>
<td>50.1 - 55</td>
<td>&lt; or = 7</td>
</tr>
<tr>
<td>F</td>
<td>55.1 - 60</td>
<td>&lt; or = 7</td>
</tr>
<tr>
<td>G</td>
<td>60.1 - 65</td>
<td>&lt; or = 7</td>
</tr>
<tr>
<td>H</td>
<td>65.1 - 70</td>
<td>&lt; or = 7</td>
</tr>
<tr>
<td>I</td>
<td>70.1 - 75</td>
<td>&lt; or = 7</td>
</tr>
<tr>
<td>J</td>
<td>75.1 - 80</td>
<td>&lt; or = 7</td>
</tr>
<tr>
<td>K</td>
<td>80.1 - 85</td>
<td>&lt; or = 7</td>
</tr>
<tr>
<td>L</td>
<td>85.1 - 90</td>
<td>&lt; or = 7</td>
</tr>
<tr>
<td>M</td>
<td>90.1 +</td>
<td>&lt; or = 7</td>
</tr>
</tbody>
</table>

Examples of weight related fat classes are:

- A carcase weighing 62.5kg with a P2 fat measurement of 11mm would be ciphered as G1.
- A carcase weighing 42kg with a P2 fat measurement of 13mm would be ciphered as C3.
Pork skeletal diagram

Location of lymph nodes
Carcase breakdown definitions

Fresh pork can be bought and sold in many forms, not only in carcases.

When pork is cut into sections, or primals, it is commonly known as “broken pork”. The following terms are commonly used when buying and selling broken pork at a wholesale level.

- **Side**: Half a pig split medially along the vertebrae.
- **Trunk**: Forequarter and middle, legs removed. Derived from whole pig.
- **Haunch**: Legs and middle, forequarter removed. Derived from whole pig.
- **Middle**: Loin section with belly. Forequarter removed at specified rib. Also known as a saddle or barrel.
- **Legs**: Legs can be bought or sold singularly or together. Removed from carcase at junction of 6th and 7th lumbar vertebrae.
- **Forequarter**: Can be bought or sold singularly or in the piece. Removed from carcase at specified rib. Also known as foreloin.

Pork is increasingly being traded as boxed pork which has been further processed from the above cuts. It can be boneless or bone-in according to customer specifications.
Anatomical directions and planes

Anatomical directions
Directional terms come in opposing pairs, such as East and West, and North and South. Anatomical directional terms are used to describe relative positions consistently within a carcase, independent of how the carcase is oriented in the East/West, North/South world.

Dorsal/Ventral
Dorsal – directed toward the back or topline of the animal.
Ventral – directed toward the belly or lower side of the animal.

Cranial/Caudal
Cranial – directed toward the head or front portion of the animal.
Caudal – directed toward the tail or rear portion of the animal.

Medial/Lateral
Medial – directed toward the midline (median plane).
Lateral – directed away from the midline.

Proximal/Distal
Proximal – directed toward the body.
Distal – directed away from the body.

Anatomical planes
Anatomical planes are used to describe cuts made through a carcase in order to view structures exposed by the cut. While a very large number of possible cuts could be made through a particular carcase, three orthogonal (at right angles to one another) planes are most important.

Dorsal plane
A dorsal plane is parallel to the back.

Transverse plane
A transverse plane is perpendicular to the long axis of the body.

Median plane
The median plane is a plane that divides the body into left/right halves.
## Cuts specifications index

### Carcase

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4001</td>
<td>Carcase (bone in)</td>
</tr>
<tr>
<td>4000</td>
<td>Side (bone in)</td>
</tr>
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</table>

### Forequarter

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4029</td>
<td>Shoulder square cut: 4 ribs (bone in)</td>
</tr>
<tr>
<td>4049</td>
<td>Shoulder picnic (bone in)</td>
</tr>
<tr>
<td>4230</td>
<td>Shoulder picnic: 4 ribs (boneless)</td>
</tr>
<tr>
<td>4056</td>
<td>Shoulder blade (bone in)</td>
</tr>
<tr>
<td>4250</td>
<td>Shoulder blade (boneless)</td>
</tr>
<tr>
<td>4059</td>
<td>Collar butt (bone in)</td>
</tr>
<tr>
<td>4240</td>
<td>Collar butt: 4 ribs – scotch fillet (boneless)</td>
</tr>
<tr>
<td>4170</td>
<td>Hock shoulder (bone in)</td>
</tr>
<tr>
<td>4175</td>
<td>Trotter: forequarter (bone in)</td>
</tr>
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</table>

### Leg

<table>
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<tr>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4012</td>
<td>Leg ham trim (bone in)</td>
</tr>
<tr>
<td>4011</td>
<td>Leg square cut (bone in)</td>
</tr>
<tr>
<td>4130</td>
<td>Rump (bone in)</td>
</tr>
<tr>
<td>4305</td>
<td>Rump (boneless)</td>
</tr>
<tr>
<td>4286</td>
<td>Leg set: 4 piece (boneless)</td>
</tr>
<tr>
<td>4310</td>
<td>Knuckle (boneless)</td>
</tr>
<tr>
<td>4290</td>
<td>Inside: topside (boneless)</td>
</tr>
<tr>
<td>4301</td>
<td>Silverside (boneless)</td>
</tr>
<tr>
<td>4300</td>
<td>Outside (boneless)</td>
</tr>
<tr>
<td>4172</td>
<td>Hock leg (bone in)</td>
</tr>
<tr>
<td>4176</td>
<td>Trotter: hindquarter (bone in)</td>
</tr>
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</table>

### Fancy Meat

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<td>7549</td>
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<tr>
<td>7692</td>
<td>Ear</td>
</tr>
<tr>
<td>4350</td>
<td>Jowl</td>
</tr>
<tr>
<td>4351</td>
<td>Jowl meat</td>
</tr>
<tr>
<td>7500</td>
<td>Tongue short cut</td>
</tr>
<tr>
<td>7501</td>
<td>Tongue Swiss cut</td>
</tr>
<tr>
<td>7510</td>
<td>Tail</td>
</tr>
<tr>
<td>7540</td>
<td>Heart</td>
</tr>
<tr>
<td>7530</td>
<td>Kidney</td>
</tr>
<tr>
<td>7520</td>
<td>Liver</td>
</tr>
<tr>
<td>7515</td>
<td>Testes</td>
</tr>
<tr>
<td>7570</td>
<td>Maw (scalded)</td>
</tr>
<tr>
<td>7560</td>
<td>Maw (unscalded)</td>
</tr>
<tr>
<td>7680</td>
<td>Back bone</td>
</tr>
<tr>
<td>7682</td>
<td>Brisket bone</td>
</tr>
<tr>
<td>7681</td>
<td>Neck bone</td>
</tr>
<tr>
<td>7690</td>
<td>Rind</td>
</tr>
<tr>
<td>7685</td>
<td>Back fat</td>
</tr>
<tr>
<td>7688</td>
<td>Cutting fat</td>
</tr>
<tr>
<td>7683</td>
<td>Chitterlings</td>
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### Middle

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</thead>
<tbody>
<tr>
<td>4070</td>
<td>Middle (bone in)</td>
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<tr>
<td>4320</td>
<td>Middle (boneless)</td>
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<tr>
<td>4080</td>
<td>Belly (bone in)</td>
</tr>
<tr>
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<td>Belly (boneless)</td>
</tr>
<tr>
<td>4101</td>
<td>Loin (bone in)</td>
</tr>
<tr>
<td>4111</td>
<td>Rib loin (bone in)</td>
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<tr>
<td>4343</td>
<td>Loin (boneless)</td>
</tr>
<tr>
<td>4361</td>
<td>Eye of loin (boneless)</td>
</tr>
<tr>
<td>4161</td>
<td>Loin back ribs: 10 (bone in)</td>
</tr>
<tr>
<td>4280</td>
<td>Tenderloin (boneless)</td>
</tr>
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</table>

### Manufacturing

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<th>Description</th>
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</thead>
<tbody>
<tr>
<td>4470</td>
<td>Trimmings</td>
</tr>
<tr>
<td>4460</td>
<td>Hock meat</td>
</tr>
<tr>
<td>4490</td>
<td>Mechanically separated pigmeat</td>
</tr>
</tbody>
</table>
Carcase primal cuts

Carcase (bone in | 4001)

Carcase is derived from a porcine that does not show evidence of milk secretion in females, and does not exhibit secondary sexual characteristics in males.

Carcase includes all parts of the body, skeletal musculature and bone.

Points requiring specifications:
- Foretrotters/hindtrotters removed.
- Flare fat removed.
- Diaphragm removed.
- Head and jowls removed.
- Head removed and jowls retained.
Side (bone in | 4000)

Side is derived from a full carcase (item 4001). The carcase is split into sides by one longitudinal cut made centrally down the sacral, lumbar, thoracic and cervical vertebrae.

Points requiring specification:
- Hind trotter/fore trotter removed.
- Flare fat removed.
- Diaphragm removed.
- Head and jowl removed.
- Head removed, jowl retained.
**Shoulder square cut:**

4 ribs (bone in | 4029)

Shoulder square cut is prepared from a side and is removed at the 4th rib at right angles to the spinal column by a straight cut to the ventral edge. Jowl and trotter is removed.

Points requiring specification:
- Skin removed.
- Fat trim level.
- Number of ribs.
Shoulder picnic (bone in | 4049)

Shoulder picnic is prepared from a shoulder square cut (item 4029) by the removal of the ribs, thoracic and cervical vertebrae. A straight cut through the shoulder joint parallel to the dorsal edge is made, retaining the humerus bone.

Points requiring specification:
- Skin completely removed.
- Variation to cutting line.

NOTE: Often corned and sold as pickled pork.

Shoulder picnic: 4 ribs (boneless | 4230)

Shoulder picnic is prepared from a shoulder square cut (item 4029) by the removal of the ribs, thoracic and cervical vertebrae. A straight cut, by saw or knife, through the humerus and blade joint parallel to the dorsal edge is made removing the collar butt from the shoulder picnic. The humerus, ulna / radius bones and cartilage is removed.

Points requiring specification:
- Skin removed.
- Shank meat retained or removed.
- Removed by saw cut or knife cut.
- Chemical lean content.

NOTE: Ideal for diced and stir fry if trimmed of fat and connective tissue into individual muscles. For stir fry, slice with the grain to 20mm thick slices and then slice thinly across the grain in to 5mm thick slices to produce flat strips.
Shoulder blade (bone in | 4056)

Shoulder blade is prepared from a shoulder square cut (item 4029) after the removal of a shoulder picnic (item 4230) by a straight cut through the humerus and blade joint and the collar butt (item 4240).

The shoulder blade is the remaining portion after the collar butt has been removed.

Points requiring specification:
- Skin removed.
- Fat trim level.

NOTE: Can be cut into shoulder chops by cutting parallel to the proximal edge beginning at the humerus and blade joint. If using as a roast, score rind.

Shoulder blade (boneless | 4250)

Shoulder blade (boneless) is prepared from a shoulder blade (bone in, item 4056) by removing the triceps group of muscles in one piece. All skin is removed.

Point requiring specification:
- Fat trim level.

NOTE: Ideal for diced and stir fry if trimmed of fat and connective tissue into individual muscles. For stir fry, slice with the grain to 20mm thick slices and then slice thinly across the grain in to 5mm thick slices to produce flat strips.
Collar butt (bone in | 4059)

Collar butt is prepared from a shoulder square cut (bone in, item 4029) by the removal of the ribs, thoracic, cervical vertebrae and the shoulder picnic. The collar butt is the dorsal portion remaining after the shoulder picnic has been removed by a cut through the joints of the humerus and blade bones.

Points requiring specification:
- Skin completely removed.
- Fat trim.
- Length of tail from eye of meat.

Collar butt: 4 ribs – scotch fillet (boneless | 4240)

Collar butt is prepared from a shoulder square cut (bone in, item 4029) by the removal of the ribs, thoracic, cervical vertebrae and the shoulder picnic (item 4230). The collar butt is the dorsal portion remaining after the shoulder picnic has been removed. All bone cartilage, skin and fat is removed.

Points requiring specification:
- Skin removed.
- Fat trim level.
- Length of tail from eye of meat.

NOTE: Scotch fillet steaks are derived from this cut. Cut into steaks by beginning slicing at the caudal end. Excellent flavour due to higher intermuscular fat content.
Hock shoulder
(bone in | 4170)

Hock shoulder is prepared from a shoulder by the removal of the fore foot at the carpal and radius joints and hock from the shoulder by a saw cut or knife cut through the joint bones of the radius and humerus bones.

Points requiring specification:
• Skin retained or removed.
• Removed from the shoulder by saw cut or knife cut.

NOTE: A versatile and profitable cut for roasting and braising. Skin can be removed and hock frenched for attractive plate presentation. Alternative to Osso Bucco.

Trotter: forequarter
(bone in | 4175)

Trotter (forequarter) is prepared from a shoulder, by a saw or knife cut, through the carpal joint severing the trotter from the shoulder.

Point requiring specification:
• Skin must cover the trotter surface.
Middle primal cuts

Middle is prepared from a side by the removal of the leg square cut (item 4011) between the 6th and 7th lumbar vertebrae and the shoulder square cut (item 4029) at right angles to the spinal column by a straight cut to the ventral edge. The diaphragm and tenderloin are removed.

Points requiring specification:
- Skin removed. Diaphragm retained.
- Blade bone (scapula) retained or removed.
- Tenderloin retained.
- Number of ribs.
**Middle (boneless | 4320)**

Middle (boneless) is prepared from a middle (bone in, item 4070) by the removal of all bones and cartilage. Costal and sternum cartilage is removed completely.

Points requiring specification:
- Which method the ribs are removed.
- Single rib boned or fleeceed.
- Skin retained or removed.
- Diaphragm retained or removed.
- Blade bone cartilage retained or removed.
- Number of ribs.

**NOTE:** Use boneless middle for rolled loin roast. Trim rind and fat approximately 20mm-50mm from dorsal edge, rolling towards the lateral edge. Tie and secure with string at approximately 25mm-30mm intervals.

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**Belly (bone in | 4080)**

Belly is prepared from middle (item 4072) by the removal of the belly at a specified distance from the eye of meat at the 4th rib and by a straight cutting line parallel to the dorsal and ventral edges.

Points requiring specification:
- Skin removed.
- Diaphragm retained or removed.
- Width of belly.
- Length of belly.
- Number of ribs.

**NOTE:** Spare ribs are produced from the belly. These are also sometimes known as belly rashers.
Belly (boneless | 4332)

Belly (boneless) is prepared from a middle (bone in, item 4322) by the removal of the loin. Costal and sternum cartilage is removed completely.

Points requiring specification:
• Which method the ribs are removed.
• Specify single rib boned or fleeced.
• Skin retained or removed.
• Diaphragm retained or removed.
• Blade bone cartilage retained or removed.
• Number of ribs.

NOTE: Highly popular food service menu item.

Loin (bone in | 4101)

Loin is prepared from a middle (item 4072) by the removal of the belly (item 4082) by a cut at a specified distance from the eye muscle and parallel to the dorsal edge.

Points requiring specification:
• Skin removed.
• Tenderloin retained or removed.
• Blade (scapula) removed.
• Ventral cutting line (tail length).
• Diaphragm retained or removed.
• Number of ribs.

NOTE: Pork loin chops, racks and cutlets are produced from the loin. These may be rindless or rind on depending on fat levels and customer requirements.

For pork rack, remove chine and French ribs. A narrower belly should be taken to ensure ribs can be frenched at a suitable distance from the eye muscle. Score rind.
Rib loin (bone in | 4111)
Rib loin is prepared from a loin (item 4101) by the removal of the vertebrae (chine and featherbones).

Points requiring specification:
• Skin removed.
• Blade (scapula) removed.
• Ventral cutting line (tail length).
• Diaphragm retained or removed.
• Number of ribs.

NOTE: Pork loin chops, racks and cutlets are produced from the loin. These may be rindless or rind on depending on fat levels and customer requirements.

For pork rack, remove chine and French ribs. A narrower belly should be taken to ensure ribs can be frenched at a suitable distance from the eye muscle. Score rind.

Loin (boneless | 4343)
Loin is prepared from a middle (item 4320) by removal of the belly (item 4332) by a straight cutting line parallel to the dorsal edge and measured from the ventral edge of the eye muscle at the 4th rib.

Points requiring specification:
• Specify single rib boned or fleeced.
• Skin removed.
• Ventral cutting line.
• Fat trim level.

NOTE: Remove rind to produce medallions, butterfly and loin steaks.
Eye of loin (boneless | 4361)

Eye of loin is prepared from a boneless loin (item 4343) and consists of the eye muscle portion (M. longissimus dorsi) carefully removed along the natural seam. Intercostal muscles and attached other muscle portions are removed.

Points requiring specification:
- Denuded of all fat.
- Silverskin removed to meat surface.
- Number of ribs.

NOTE: Pork medallions, loin and butterfly steaks are produced from this cut.

Loin back ribs:
10 (bone in | 4161)

Loin back ribs are prepared from a rib loin (item 4111) by the removal of the ribs and intercostal muscles in one piece.

Point requiring specification:
- Width of loin back ribs.

NOTE: Also known as US or American style spare ribs. Not to be confused with spare ribs from the belly. Further value can be added by marinating this cut.
**Tenderloin (boneless | 4280)**

Tenderloin is prepared from the side by removing the muscles in one piece from the ventral surface of the lumbar vertebrae and lateral surface of the ilium. The sidestrap (M. psoas minor) remains attached.

Points requiring specification:

- Sidestrap (M. psoas minor) retained or removed.
- Removal of fat cover.
- Denude to silverskin. Silverskin removed.

**NOTE:** The tenderloin can be a loin tenderloin or a whole tenderloin, but it would need to be removed from the carcase before the middle is separated from the leg.
Leg primal cuts

Leg ham trim (bone in | 4012)

Leg ham trim is prepared from a leg square cut (item 4011) by the removal of the flank, flank fat, sacral vertebrae, coccygeal vertebrae and associated fat.

Points requiring specification:
- Skin completely removed.
- Trotter retained or removed.
**Leg square cut**  
**(bone in | 4011)**

Leg square cut is prepared from a side by a straight cut at right angles to the vertebral column between the 6th and 7th lumbar vertebrae passing just cranial of the hip bone (ilium). The butt tenderloin is removed.

Points requiring specification:
- Skin completely removed.
- Trotter retained or removed.
- Butt tenderloin retained.
- Tail retained or removed.

**Rump (bone in | 4130)**

A rump (bone in) is prepared from a leg square cut (item 4011) by a cut from the sub iliac lymph node through to the ischiatic lymph node avoiding the quadriceps group of muscles. The sacral vertebrae is removed.

Points requiring specification:
- Skin removed.
- Flank muscles and associated fat removed.
- Butt tenderloin retained or removed.
Rump (boneless | 4305)

A boneless rump is prepared from a leg square cut (item 4011) by a cut from the subiliac lymph node through to the ischiatic lymph node, avoiding the quadriceps group of muscles. All bones and cartilage are removed.

Points requiring specification:
- Skin removed.
- Flank muscles and associated fat removed.

NOTE: Rump steaks are produced from the boneless rump. Good value alternative to loin steaks. Great for a thicker, juicy cut.

Use residual trim for diced if big enough.

Leg set: 4 piece (boneless | 4286)

Leg set (4 piece) is prepared from a leg and comprises of four primal cuts: Rump (item 4305), silverside (item 4301), knuckle (item 4310) and inside (item 4290).

Points requiring specification:
- Variation to primal cut specifications.
- Fat trim level.
Knuckle (boneless | 4310)
Knuckle is prepared from the ventral portion of a leg by removal along the natural seam between the knuckle / inside and the knuckle / silverside. The cap portion (M. tensor fasciae latae) is retained.

Points requiring specification:
- Skin removed. Cap removed.

NOTE: Pork round leg steaks are produced from this cut. Begin slicing from proximal end.

Ideal alternative to loin steaks. Alternatively keep whole as a mini roast.

Inside: topside (boneless | 4290)
Inside is prepared from a boneless leg and is removed along the natural seams between the silverside and knuckle. The cap muscle (M. Gracilis) is retained.

Points requiring specification:
- Skin removed. Cap removed.

NOTE: Ideal for leg steaks and schnitzels.
**Silverside (boneless | 4301)**

Silverside is prepared from a boneless leg, is the outside portion, and is removed along the natural seams between the inside and knuckle. The rump removal from the leg determines the proximal cutting line.

Points requiring specification:
- Length of Achilles tendon.
- Popliteal lymph node removed.

**NOTE:** Retain rind for boneless roast. Alternatively slice into steaks or schnitzels by beginning at the proximal (rump) end so as to slice across the grain. Remove gluteal membrane (silverskin) if slicing.

If trimmed of connective tissue, use residual trim for diced or mince.

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**Outside (boneless | 4300)**

The outside is prepared from the silverside (item 4301) by the removal of the heel muscle along the natural seam. Lymph nodes and surrounding fat is removed.

Points requiring specification:
- Popliteal lymph node removed.

**NOTE:** Leg steaks and schnitzels are produced from this cut.

Remove gluteal membrane (silverskin) and slice by beginning at the proximal (rump) end so as to slice across the grain.
Hock leg (bone in | 4172)

Hock leg is prepared from a leg by the removal of the hindtrotter at the tarsal joint and the leg at the stifle joint by a saw cut or knife cut.

Points requiring specification:

Skin retained or removed.

• Removed from the leg by saw cut or knife cut.

NOTE: A versatile and profitable cut for roasting and braising.

Skin can be removed and hock frenched for attractive plate presentation. Alternative to Osso Bucco.

Trotter: hindquarter (bone in | 4176)

Trotter (hindquarter) is prepared from a leg by a saw cut or knife cut through the tarsal joint severing the trotter from the leg.

Point requiring specification:

• Skin must cover the trotter surface.
Manufacturing primal cuts

**Trimmings (4470)**
Trimmings are portions of pork meat remaining after the preparation of primal cuts from carcase or portion of a carcase, and shall not include any portion of head meat, internal organs, major tendons, ligaments, cartilage or bone.

Points requiring specification:
- Minimum pieces size.
- Chemical lean content.

**Hock meat (4460)**
Hock meat is prepared from hock shoulder (bone in, item 4170) and leg (item 4172) after the removal of all bones and cartilage and skin. Heel muscle from the silverside can be included where specified.

Points requiring specification:
- Prepared from hock shoulder only.
- Prepared from hock leg only.
- Heel muscle included.
- Chemical lean content.

**Mechanically separated pigmeat (4490)**
Mechanically separated pigmeat is produced from deboning machines, which is of a fine texture and is the residue of meat removed from bones after the boning operation. Packs shall not include any portion of head meat or internal organs (edible offal).

Point requiring specification:
- Calcium content – a statement indicating the maximum calcium content must be shown.
Fancy meat primal cuts

**Head: split (7549)**

Head is removed from the body by a square cut transversely across the neck muscles between the occipital bone and the 1st cervical vertebrae. A major portion of the jowl will be retained on the head. The head is split longitudinally into two equal portions.

Points requiring specification:

- Jowl retained or removed.
- Tongue retained.
- Ears retained after complete hygiene trim.
- Head split or whole. Brains retained or removed.

**Ear (7692)**

Ears are removed from a head by a cut at the base of the ear and retaining the cartilage portion only.

**Jowl (4350)**

Jowl is derived from a head and is the portion cranial to the shoulder removed by following the contour of the lower jaw down to the snout.

Point requiring specification:

- Skin removed.

**NOTE:** Also known as pork cheek.

Ideal for slow braise as high connective tissue content ensures a rich, gelatinous texture. Commonly used for brawn.
**Jowl meat (4351)**

Jowl meat is prepared from jowl (item 4350) and is the thin flat muscle (M. sternomastoideus) trimmed of all skin, external fat, gland and loose pieces of meat. The portion is trimmed to a square shape.

**Tongue short cut (7500)**

Tongue short cut is prepared by removal of the larynx (although the tip of the epiglottis may remain) and tongue root on a straight line directly behind the hyoid bones leaving these bones in the tongue (except the stylohyoid). The mucous membrane between the epiglottis and the tongue (glossoepiglottic fold) is retained undamaged.

Points requiring specification:
- Lymph nodes removed.
- Salivary glands removed.
- Fat removed.

**Tongue Swiss cut (7501)**

Tongue Swiss cut is prepared from a tongue short cut (item 7500) by removal of the epiglottis, fat from ventral surface, sublingual glands and the M. mylohyoideus of the tongue blade.

Point requiring specification:
- Ventral fat depth.
Tail (7510)

Tail is derived from side by a cut through the sacro-iliac (slip joint) to remove all sacral vertebrae and coccygeal vertebrae. The skin is retained.

Points requiring specification:
- Tail removal point.
- Specify fat trim along sacral vertebrae.

Heart (7540)

Heart is removed from the pericardium, and the arteries and veins are trimmed from the base of the heart.

Points requiring specification:
- Auricles retained or removed.
- Method of preparation – whole or cut.
- Fat trim level.

Kidney (7530)

Kidney is prepared by the removal of blood vessels and ureter at their point of entry to the kidney. The kidney capsule is removed.

Points requiring specification:
- Fat coverage required.
- Cord attached or removed.
Liver (7520)
Liver is prepared with the hepatic nodes attached. Any fat, blood vessels and connective tissue attached to the liver is removed.

Testes (7515)
Testes are prepared by the removal of the epididymis (which is attached to the caudal border) and removal of the cord-like tube (ductus deferens) in close proximity to the head of the testes.

Points requiring specification:
• Capsule retained or removed.
• Removal point from ductus deferens.

Maw: scalded (7570)
Maw (stomach) consists of the entire stomach opened and rinsed of any paunch content leaving the brown/black mucous membrane intact.

Points requiring specification:
• External fat trim.
• Brown/black mucous membrane removed.
Maw: unscalded (7560)
Maw (stomach) consists of the entire stomach opened and rinsed of any paunch content leaving the brown/black mucous membrane intact.

Points requiring specification:
- External fat trim.
- Brown/black mucous membrane removed.

Back bone (7680)
Back bone is derived from a carcase side and consists of the bodies of the lumbar, thoracic vertebrae (to the 4th rib) and spinous processes that remain after boning. The lumbar / thoracic vertebra and remaining rib bone is trimmed level with the spinous process.

Points requiring specification:
- Lumbar vertebra only.
- Thoracic vertebra only.
- Cut into portions.

Brisket bone (7682)
Brisket bone is prepared from belly (bone in) by cutting through the costal cartilages, separating and removing the brisket bone (sternum) from the ribs.
**Neck bone (7681)**

Neck bone is prepared from a carcase side and consists of the 7 cervical vertebrae and attached meat portions that remain after boning operation.

Points requiring specification:
- Neck bone cut into portions.
- Riblets retained.

**Rind (7690)**

Rind is the skin derived from a carcase or side and consists of the skin, which has been removed from any or all primals.

Point requiring specification:
- The primals rind to be derived from.

**Back fat (7685)**

Back fat is derived from a carcase or side and consists of subcutaneous fat, which has been removed from any or all primals.

Point requiring specification:
- The primals back fat to be derived.
Cutting fat (7688)
Cutting fat is prepared from the loin, belly or leg and consists of subcutaneous fat, which has been removed by Whizard knife. Skin is removed from fat.

Point requiring specification:
• Skin retained.

Chitterlings (7683)
Chitterlings are the lower intestinal tract from the large intestine to the rectum but not including the anus. Chitterlings are trimmed, cleaned and where specified may include the mucous membrane.

Point requiring specification:
• Mucous membrane removed.
Preparation

Primal cuts preparation
Remove head if head on carcase. Meat from head can be used for mince or brawn.

**Pork fillet**
Remove flair fat, kidney fat and kidney. Remove full fillet, if it is not required for chops, prior to separation of the side into major primal cuts. Trim excess fat and sinew from the fillet before sale.

**Leg and rump**
Separate the leg (including rump) from the loin by a cut on a straight line between the 6th and 7th vertebrae of the backbone to a point just clear of the hip bone.

After separating the leg and rump from the middle, the trotter may be removed by cutting between the joint of the hock and trotter (tarsal bone and fibular tarsal bone) junction, leaving the hock on.
Leg cuts preparation
The leg can be sold whole, or cut into portions as roasts. Alternatively further processing can be applied to produce cuts that are more consumer friendly:

Pelvic bone removal
Remove the whole pelvic bone from leg by closely following the contour of the bone.

Removal of topside
Remove topside by following the natural seam dividing the topside between the silverside and round.

Leg bone removal
Remove the leg (femur) bone from the remaining leg muscles. Pass the boning knife between the patella bone (knee cap) and the shank knuckle bone.
Round and rump separation

Remove the round by following the visible seam between the round and silverside. By releasing the patella (knee cap) and the joint capsule and tendon from the shank knuckle bone, the complete round and rump can be easily detached and removed from the silverside.

(Silverside easy-carve roast – hock on for customer identification as a pork leg roast)

Remove the rump by following the natural seam between the rump and silverside.

NOTE: Trim the silverside (hock on) of excess fat but unlike the topside, round and rump, leave the rind on.

Score rind to provide an easy carve silverside roast, with ‘crackle’.

(Round, topside and rump)

Trim excess fat, cartilage and tissue from topside, round and rump.

Primal cuts preparation

Middle and forequarter

Separate the forequarter from the middle (full loin and belly) with a straight cut across between the ribs. This is usually between the 4th and 5th or 5th and 6th but should be specified by the customer or individual requirements.
**Middle cuts preparation**

Remove flair fat from the middle if not previously done and separate the belly from the full loin with a saw cut parallel to the lateral edge of the eye muscle. A wide belly is recommended for best presentation of loin cuts.

The loin can then be cut into chops by placing the loin bone side down, and marking the chops by cutting through to the bone at a pre-specified thickness. Finish by passing the chops through the bandsaw. For cutlets, remove rind and chine bone, and slice between the ribs to produce cutlets.

**Preparation of middle cuts**

For boneless cuts, remove the rind from the full loin leaving only 3mm-4mm of fat coverage.

**NOTE:** This rind can be trimmed and sold separately as crackle for roasting pieces or for nibbles etc.

Next remove the chine bone and rib bones from the loin. These rib bones can be prepared and sold as spareribs for the BBQ, grilling etc. Value is added if the ribs are marinated before sale.

The full loin generally contains nine ribs on the ribloin (depending upon forequarter removal) and six lumbar vertebrae bones on the midloin. Use the midloin to cut butterfly steaks (pictured) or alternatively a single cut will provide lean loin steaks.

Use the ribloin to cut medallion steaks.

Remove all excess fat and unwanted tissue from the belly and cut into spareribs either between the ribs or by marking by slicing down to the bone and cutting through ribs using a bandsaw.
Forequarter cuts preparation

The forequarter is separated from the middle with a straight cut across between the specified ribs.

Next remove the rib and neckbones from the forequarter. The rib bones are saleable as American style spareribs.

Alternatively using a bandsaw, separate the collar butt (bone in) and the shoulder picnic by a straight cut parallel to the dorsal edge passing through the humerus and scapular joint using a bandsaw.

Cut forequarter chops by passing the collar butt (bone in) through a bandsaw parallel to and beginning at the caudal cut surface.

The shoulder picnic can then be boned in preparation for a boneless roast as below.

Leaving 3mm of fat cover, the boned-out shoulder can then be rolled and trussed or netted. Add seasoning if desired.

Alternatively retain a portion of the shoulder meat and use for diced, stir fry or minced pork. Diced pork should be extremely lean and cubed 4cm x 3cm, ideal for kebabs and stir fry dishes.
Smallgoods

From the traditional smoked bacon and ham through to cured and air dried salamis, Australian pork is central to the smallgoods manufacturing industry.

Processed pork products were initially developed to utilise all parts of the pig carcase before refrigeration so they could be kept for months in a pantry or cellar. The pickling, curing, drying and/or smoking process preserves these products. Nowadays these processes are accelerated with modern technology producing a safer, healthier and more palatable product which also gives a longer shelf life.

Many different nationalities, cultures and regions produce smallgoods that are similar in appearance and processing method but vary greatly in terms of ingredients and recipes which are fiercely protected.

There are a wide variety of smallgood categories that differ through their processing methods. The following are some examples of, but are not limited to, the wide variety of smallgoods produced in Australia.

Ham

Ham takes on many forms but is generally considered to be cured, cooked and smoked.

It may be boneless or have the bone in, can be from any part of the carcase, of whole muscle or formed from processed cuts of pork. Some examples of ham are: leg ham, carved from the bone and generally considered to be the premium ham; Prager ham, traditional European style, generally boneless and double smoked; soccerball ham, a boneless ham packed into a round shape, which is smoked and then simmered in water; double smoked ham, boned and rolled with the rind attached, smoked, simmered and smoked again and; sandwich ham, made from cured, boneless, rindless shoulder pork pieces, filled into an artificial casing and water cooked.

Bacon

Most Australian bacon is made from the middle or loin section, which is cured, deeply smoked and cooked for about six hours, cooled and sliced. Available in full rasher or short cut Streaky bacon is from the belly and made in the same process but generally sliced thinner.
Sausages

Most Australians think of something for the barbeque when they think of sausages. In fact, sausages take in a wide variety of forms. Basically a sausage is minced meat sheathed in some form of a casing. From there, the differences are the type of meat, meat texture, ingredients such as herbs, spices and other flavourings, the type and size of the casing and finally the processing method. To give you an idea of the many types of sausages available, the following are some examples of types of more commonly known sausages produced by the smallgoods industry.

Chorizo

A sausage of Spanish origin, chorizo is a coarsely textured sausage containing mostly pork with a little beef and seasoned with cayenne pepper, chilli, red peppers, paprika, white or black pepper and curing salt plus starter cultures (by law) to produce a mildly spicy, fermented dry product. It will often contain no preservatives. Encased in a natural hog casing it is deeply smoked for around 12-18 hours depending on the smokehouse.

To make a fresh chorizo to use for a BBQ, don’t use cure – instead add a binder and sell them fresh.

To make a cooked chorizo use cure, add a binder and process like a kransky.
**Kransky**

Kransky is a coarse textured sausage made predominantly with pork seasoned with fine white pepper, coriander, garlic and nutmeg. Encased in a natural hog casing and smoked for eight hours, it is then simmered in water for a short period of time. The flavour can be intensified by hanging in a cool dry place and allowing it to dry. It is also known as jagerwurst (Germany) which literally translated as hunter’s sausage.

**Mettwurst**

Literally translated as meat sausage, mettwurst is a finely textured sausage made of high quality pork cuts and seasoned with coarse white pepper, marsala wine, nutmeg and curing salt plus starter cultures (by law). Encased in a hog casing, it is very slightly smoked but is still a raw product. Mettwurst are linked like Frankfurters and matured overnight in a warm smokehouse.

**Frankfurts**

Known as paruvki in Poland and sosyki in Russia, the frankfurt can trace its origins to Germany. The two most common types of frankfurts available in Australia, are the Australian and continental. Cocktail frankfurts are Australian frankfurts created with shorter links. Frankfurts are a very fine textured sausage made of pork and beef, coriander, nutmeg, salt and pepper. The continental will generally have other flavours such as cardamom, paprika, mustard seeds. Australian frankfurts are generally filled into an edible collagen casing and steam cooked while continental frankfurts are made with natural sheep casings, smoked and then simmered in dyed (Vienna colouring agent) water.

**Cabanossi**

In Russian, Caban means pork, and like its name, cabanossi is traditionally made with 100% pork. Finely textured and seasoned with garlic, caraway and fine white pepper, cabanossi is generally encased in collagen casings and deeply smoked until cooked.

**Devon**

Devon was originally produced in Australia as fritz but following World War one to show patriotism to Britain, it was renamed Devon after the British county of the same name. A very fine textured sausage, the meat comprises mostly of pork with a little beef and is seasoned with nutmeg, fine white pepper, coriander, soy protein, starch and wheat flour and cooked by simmering in water. Devon is traditionally served sliced as a luncheon meat. Devon may also be known as polony.

**Mortadella**

Traditionally an Italian sausage, mortadella is made from finely textured pork, beef and veal, seasoned with a blend of coarse and fine black pepper, cinnamon, cardamom, pistachio and marsala wine. Using a cellulose casing, the sausage is deeply smoked for 10-12 hours and basically used as a sandwich slice.

**Csabai**

A sausage of Hungarian origin, it is also known as csbai kolbass in Slavic countries, kolbass being the Slavic name for smallgoods.

A coarse textured sausage made from 90% pork, it is seasoned with paprika, fine white pepper, coriander, red wine and curing salt. Filled into a natural hog casing, csabai is traditionally hung in a cool dry space to promote maturity and will keep indefinitely under these conditions.
Dry cured or fermented products

Both sausages and whole muscle products can be dry cured and fermented. A sausage that has undergone this process is a salami while examples of whole muscle products are prosciutto, pancetta and coppa.

There are two very important steps in this production method:

1. The main task in this type of process is to reduce the water activity or moisture in the meat in order to make the product shelf life stable. This is achieved initially by the dry curing salting process where each primal cut is individually massaged and rubbed by hand with a curing salt and spice mix. The primals are then packed into curing containers for this initial curing period with regular turning and rotation to ensure even distribution of salt and spice and ensure even air flow. No brine injection is used at any time in such a production technique.

2. After completion of the initial salting curing process, an extensive moisture reduction of 35% or more, depending on the type of product, is achieved. This is a very important process, requiring time in order to activate the taste enzymes in the meat. If the time factor for fermentation was not applied, the product would taste just like salted meat and not had the chance to develop the unique and distinct fermentation flavour because time was not allowed to activate the taste enzymes.

Prosciutto

Prosciutto is a dry cured pork leg that may be bone in or boneless, processed as above and matured by being air dried for six to eight months.

Pancetta

Pancetta is a mildly cured, gently smoked and air dried loin and or belly product. It can be either flat which is just the belly portion or round which is the loin and belly rolled.

Coppa

Coppa is a dry cured, air dried boneless pork neck which has also been lightly smoked. Its rustic flavour and visual appeal is heightened by its naturally marbled texture. Coppa is a naturally Italian country style delicacy and is considered mid-range in terms of quality compared to other meats of this category.

Salami

A salami is also by definition a sausage, the main difference from the previous sausages is it is naturally fermented and may also be smoked. Salamis are made predominantly with pork with some beef and contain curing salt, spices and starter cultures. Some varieties will also contain wine and spirits to enhance and develop the flavour.

The salami is hung in a conditioning room for maturing for several days. If the salami is smoked this occurs after first maturing time and then further matured in a maturing room for a designated period of time. Salamis can be kept indefinitely hung in a cool dry area. The maturing process will continue with the salami naturally, slowly losing weight and developing in flavour. Some popular types of salami are listed below.

Veneto

Originating in Venice, Veneto is a spicy coarsely textured salami made only with pork. Seasoned with fine white pepper, whole black pepper nutmeg, curing salt and garlic, it is filled usually into sheep bung casing which is crescent shaped and matured for at least four weeks. Hung in a dry cool place the Veneto should last for up to three months.
Danish

As the name suggests, this style of salami is Danish in origin and is mild in flavour. Coarsely textured, made with mostly pork and some yearling beef, it is seasoned with black and white pepper and curing salt. It is filled into a fibrous casing which allows for air penetration and matured for three weeks.

Cacciatore

The cacciatore salami is of Italian origin and literally translated as hunter, presumably because hunters carried it to nibble on when out hunting for days.

A spicy coarsely ground salami made predominantly of pork with a little beef, and seasoned with coarse white pepper, coriander, black whole peppers, garlic and curing salt. It is then filled into a continuous hog casing and strung into individual lengths of approximately 12cms and matured for approximately three weeks. Cacciatore should not be refrigerated but hung in a cool airy place where it will keep for three months.

Pepperoni

Originally from Spain, pepperoni takes its name from the Spanish word for pepper. A spicy raw sausage made predominantly from coarsely textured pork with a little beef, pepperoni is seasoned with red peppers, paprika, fine white pepper, garlic and curing salt. Filled into a natural sheep casing it is cold smoked for 8-12 hours and should not be refrigerated but hung in a cool dry area to mature.

To manufacture a fermented sausage to sell to the public in Australia, you must obtain a licence and must use starter cultures.
Pork Milanese, brown butter, capers and lemon

Ingredients

4 pork cutlets (loin end, French trim)
1 egg
200ml full cream milk
500gm Panko bread crumbs
200gm plain flour
200gm unsalted butter
50gm baby capers
2 lemons
1 bunch sage – leaves picked
1 bulb young garlic
300ml rice bran oil

Method

1. Crumb cutlets- Place flour in a bowl and dust the cutlets, pan off any excess flour. Crack eggs and whisk together with milk. Dip cutlet into egg mixture and then into the panko crumbs, press the crumbs onto the cutlet so they stick.

2. Confit garlic- Peel garlic and place the cloves and 100ml of oil in a small saucepan and cook on a medium heat until soft and sweet, about 30 minutes.

3. Fry Sage- Heat 150ml of oil in a small pot to 180°C and fry sage leaves until crisp, remove from the oil and drain on paper towel.

4. Peel and segment lemons, reserve juice that is produced whilst segmenting.

5. Place 150gm butter in a sauce pan and put on a medium heat, cook until the butter melts and turns to a burnoisette stop the cooking with the reserved lemon juice, segments and the baby capers.

6. Heat a large frying pan over a medium heat add 50ml oil, place the cutlets in the pan and cook for 2 minutes each side. Add 50gm of butter after the second 2 minutes and baste the cutlet for 1 minute. Remove and allow to rest. Place the cutlet on the plate and top with 3 pieces of garlic, lemon caper sauce and the fried sage leaves.

Serves 4
Marketing objectives

Marketing objectives for the Australian pork industry

Pork has enjoyed strong growth in popularity in Australia since the 1960’s, and particularly in more recent years, white meats such as pork and chicken appear to be growing at the expense of red meats. This growth in popularity is in line with the strategy to move away from an “occasional” to an “everyday” meat consideration for Australian homes and to be the new source of inspiration and ideas for food service.

Visit pork.com.au to see the latest advertising campaigns from APL.

It is the role of APL to undertake marketing in co-operation with industry, retailers and food service to support the continuing growth of fresh pork consumption. The Australian pork industry has set the target of growing fresh pork consumption by three kilograms per Australian over the next five years to 2020.

While pork consumption is growing, research has also shown that there continues to be barriers preventing some people from increasing their consumption. These barriers include less familiarity with how to cook pork and its reputation as a fatty meat.

The “Get Some Pork on Your Fork” advertising campaign aims to remove these barriers and increase purchase frequency of pork.
### Glossary of terms and abbreviations

**Aging**: A tenderising process which uses naturally occurring enzymes in meat to break down muscle fibre

**Aitch**: Bone Caudal part of pelvic bone which sits below the topside. Also known as the ischium

**AI**: Artificial Insemination Anterior Situated or in the direction of the front of the carcase

**APL**: Australian Pork Limited

**APIQP®**: Australian Pork Industry Quality Assurance Program

**APIQS**: Australian Pork Industry Quality Standards

**Backfatter**: Culled breeding pig sold for meat, also known as a chopper

**Baconer**: Pig of 85-110 kg live weight

**Barren**: A sow or gilt which is sterile

**Barrow**: Castrated male pig

**Boar**: Entire male pig

**Boar taint**: A distinct unpleasant odour often described as perspiration or urine-like that can present when fat or meat from entire mature boars is cooked

**CAPE**: Confederation of Australian Pork Exporters

**Caudal**: Pertaining to structures directed towards the tail along the longitudinal axis

**Cervical**: Vertebrae (7) of the neck

**Chilled**: Product that is stored in the temperature range of (0°C - +4°C)

**Chemical lean**: A measurement of lean to fat ratio. Generally expressed as a percentage

**Chine bone**: The body and spinous process of the thoracic and lumbar vertebrae

**Chopper**: Culled breeding pig sold for meat, also known as a backfatter

**Coccygeal**: Pertaining to the coccyx or tail bones. Vertebrae caudal to sacrum

**CO2**: Carbon Dioxide. Commonly used to stun pigs as a humane method of rendering the pig unconscious before slaughter

**Cranial**: Pertaining to structures directed towards the head along the longitudinal axis

**Creep**: Lying area in farrowing pen for piglets

**CSIRO**: Commonwealth Scientific Research Organisation

**EPT**: End-point Temperature

**Denuded**: Primal cuts that have all surface fat removed

**DFD**: Dark, Firm, Dry. Refers to the colour and moisture of pork, associated with high pH. Also has a shorter shelf life

**Dorsal**: Towards the back or top line of the animal

**Evisceration**: Removal of all internal organs and intestinal tract

**Eye muscle**: M. longissimus dorsi. Main muscle in loin running the length of either side of the vertebrae

**Farrow**: Birth

**Feather bone**: The spinous process of the vertebrae

**Femur**: Thigh bone

**Fibula**: Smaller bone in shin or hind hock

**Finisher**: Pig between 55-90 kg live weight and 140-170 days old

**Frenching**: Removal of all meat, fat and periosteum from bones which extend from meat EG rib, tibia/ulna and radius

**Fresh**: Meat that has not been frozen, cured or adulterated

**Frozen**: Meat that has been reduced in
temperature to below freezing point (-18°C)

FSANZ: Food Standards Australia New Zealand

F1: First cross

F&A: Facilitator and Auditor (APIQ)

Gilt: Sexually immature female pig

Glycolysis: The process whereby glucose in the muscle is converted to lactic acid

Gross weight: Weight of product plus all packaging material

Grower: Pig between 20-55 kg live weight and about 10 weeks old

Hal: Halothane Stress Gene

Hip bone: Anterior part of the pelvic bone which lies medial to the rump. Also known as the ilium

HSCW: Hot Standard Carcase Weight

Humerus: Arm or shoulder bone extending from the scapula to the ulna and radius

Ilium: Hip Bone

Intercostal: Lean muscle situated between the rib bones

Ischium: Aitch Bone

Lateral: Directed away from the midline

Lumbar: Vertebrae (7) of main portion of loin, caudal to thoracic, cranial to sacrum

Lymph node: A collection of active lymph tissue enclosed in a capsule, sometimes known as lymphatic glands. The lymphatic system is part of the body’s defence against disease

Marbling: Intramuscular fat deposits. Appear as streaks or flecks of fat within a lean portion of muscle

MAT: Moving Annual Total

Medial: Directed toward the midline (median plane)

Net weight: Weight of product after packaging material has been deducted

NRS: National Residue Survey

Patella: Knee cap

Parity: The number of litters a sow has had, e.g. two litters equals second parity and so on

Periosteum: The sheath of connective tissue that surrounds all bones except those at joints

PHMS Pig Health Monitoring Service: Veterinarian inspection of carcase and internal organs at slaughter

Porcine: Relating to pigs

Porker: Pig of 45-75 kg liveweight

Posterior: In the direction of, or situated to the rear of the carcase. Also referred to as caudal

Primal cut: A major separated cut of the carcase

PSE: Pale, Soft, Exudative. Refers to the colour and moisture of pork and is associated with low pH

Radius: Smaller bone in fore hock above ulna

Runt: A small pig which fails to grow properly

Sacral Pertaining to the sacrum. Vertebrae (4) caudal to lumbar vertebrae

Scapular: Shoulder blade bone

Spinous process: Sharp pointed slender dorsal process of vertebrae forming the spine. Also known as feather bones

SSC: Secondary sexual characteristics

Sternum: Breast bone where the ribs meet the breast

Stifle joint: The joint between the shin bone (tibia) and leg bone (femur)

Sub-primal: Smaller portion of primal. Often an individual muscle

SOP: Standard Operating Procedure

Sow: Sexually mature female pig
Stale: Sow not returning to oestrus after weaning

Tenderstretch: Hanging carcases from the aitchbone instead of the Achilles tendon


Thoracic: Vertebrae (14) caudal to the cervical and cranial to the lumbar vertebrae

Thoracic cavity: Part of the trunk between the neck and abdomen

Tibia: A large bone in shin or hind hock

Ulna: Longer bone in fore hock under the radius

Vacuum pack: Refers to product packed in a vacuum in a semipermeable oxygen resistant bag. Commonly referred to as “cryovac”

Ventral: Directed towards the belly or lower side of the animal

Weaner: Pig separated from the sow at 14-28 days of age, around 6-8 kg and grown out to between 14-30kg live weight at 8-10 weeks of age

Whizard knife: A powered circular knife designed to assist in trimming of carcases and particularly useful in trimming meat from bone

WHP: Withholding period – this is the minimum time that must elapse between the last chemical/drug treatment and slaughter
Thank you from APL

Thank you

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