



meat standards  
australia

“Meat Standards Australia is the world’s only  
consumer based eating quality grading system.”

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Eating quality is of paramount importance to red meat consumers. They want a palatable, consistent and safe product.

Meat Standards Australia (MSA®) is a tenderness guaranteed program for beef and sheepmeat, based on extensive consumer research. All beef and sheepmeat underpinned by the MSA guarantee has met strict criteria to ensure it meets consumer expectations for eating quality; tenderness, juiciness and flavour, and is labelled according to recommended cooking method.

**Integrity**

All participants in the program are licensed to use the Trademark, and certify products via an approved Quality Management System in accordance with the MSA Standards Manual. Licensees are subject to independent annual random audit programs for compliance to the Standards. MSA® Standards are backed by independent audit to the AS/NZS IS09001/2000 Standard.

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# msa sheepmeat

Meat and Livestock Australia (MLA), research partners and industry have undertaken research and development into defining and improving lamb and sheepmeat eating quality. The focus of the research was to provide supply chains with tools and information to monitor and improve product quality and better meet customer requirements in a practical and cost effective way.

Sheepmeat eating quality (SMEQ) research was identified as a priority area due to many factors including the need to maintain strong consumer demand and the opportunity to extract additional value from lamb, hogget and mutton cuts.

The MSA sheepmeat program is based on a supply chain approach, with all sectors required to contribute to improving the overall eating quality of lamb and sheepmeat.





An important element contributing to predictable eating quality is the management of sheep on-farm.

#### Key factors:

##### Breed

Merino and Merino crosses require more careful pre-slaughter management to reduce effects associated with stress.

##### Sheep age

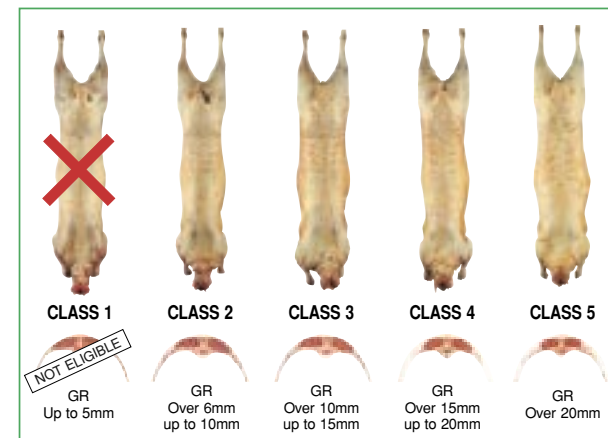
Lamb is the premium product however some cuts of hogget and mutton also have potential for high eating quality.

##### Finishing

Sheep that are 1st and 2nd cross Merino require a minimum weight gain of 100grams/day for 2 weeks prior to consignment. Merinos and animals with greater than 50% Merino content require at least 150grams/day for 2 weeks prior to consignment.

#### Sheep carcase class:

Minimum weight requirements are  $\geq 16$ kg hot standard carcase weight (HSCW) for sucker (milk fed lamb) and  $\geq 18$ kg HSCW for all weaned lambs, hogget and mutton.



Sheep and lambs are susceptible to pre-slaughter stress, which must be minimised where possible.

#### Key factors:

- Minimum 2 weeks off shears (wool length  $\geq 5$ mm).
- Total time off feed must not to be greater than 48 hours before slaughter.
- Animals are to have access to water at all times while not in transit.
- A minimum of 2 weeks at consignment property before dispatch.
- Maximum time in transit of 24 hours.

#### Supply methods:

##### Direct consignment

All categories eligible.

##### Saleyards

1st and 2nd Merino cross are accepted through saleyards. Greater than 50% Merinos or pure Merinos may be accepted through saleyards providing the processor can demonstrate animals through this pathway meet pH/temperature window and ultimate pH requirements as outlined in the MSA Sheepmeat Standards Manual.

##### Identification

National Vendor Declaration (Sheep and Lambs) must be correctly filled out and accompany consignment to saleyards and/or processor.

production

pre-slaughter  
handling

Implementation of the MSA sheepmeat program is intended to measure and control systems and standards against known critical control points within an enterprise's total quality management system.

# processing

## Key factors:

### Lairage

The total time in lairage must be monitored to ensure total time off feed prior to slaughter, including transport, does not exceed 48 hours. Total time off water is to be less than 24 hours.

If livestock are held over in a holding paddock and fed at the processing plant, the processor must demonstrate that animals through this pathway meet pH/ temperature window requirements and pHu requirements as outlined in MSA Sheepmeat Standards Manual.

### Ultimate pH (pHu)

The rate of carcass pH and temperature decline is measured, taking into account electrical inputs and chilling rate. The temperature at which the carcass enters rigor (pH6) is critical when determining and optimising eating quality.

### Carcass hanging

The carcass can be suspended using the traditional Achilles hang method or by tenderstretch, which involves suspending the carcass by the pelvis. Tenderstretching improves the eating quality of certain cuts.

### Ageing

The ageing rate of the carcass is dependent on chilling rates and storage temperatures. Factors including the pH window and hang method also have an impact on how well the carcass will age in relation to eating quality.

### QA system

Plants must have Quality Assurance systems in place to meet MSA standards.

Plants must be AUSMEAT accredited.

### Lot & carcass identification

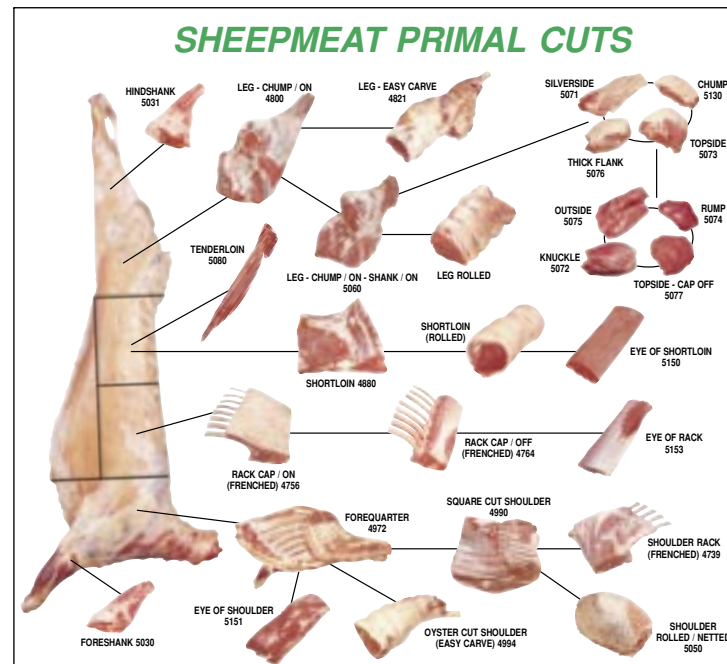
Verification between lot ID and individual carcass ID is required for traceback and verification purposes.

# sheepmeat cuts



# cuts & cooking methods

The following tables outline the eligible sheepmeat cuts and cooking methods for lamb, hogget and mutton in the MSA sheepmeat program, once all standards have been met.



MSA product must be identified on the carton label and cooking method specified.

CUT	HAM	COOKING METHODS				
		GRILL	ROAST	STIR FRY	C/ROLE	
Leg Chump / On	4800		●●			
Leg 'Easy Carve'	4821		●●			
Leg Chump / Off	4820		●●			
Chump	4790		●●			
Chop		●●●				
Hindshank	5031				●●	
Leg Chump / On (Boneless)	5080		●●			
Rolled / Tied			●●			
Topside	5073			●●		
Silverside	5071			●●●		
Thick Flank (Round)	5076	●●	●●	●●		
Chump (Rump)	5130	●●	●●	●●	●●	
Topside Den	5077			●●		
Outside (Den)	5075			●●●		
Knuckle (Round)	5072	●●	●●	●●●		
Rump (Den)	5074	●●●	●●●	●●	●●	
Loin	4880		●●●			
Shortloin	4880		●●●			
Rolled			●●●			
Noisettes		●●●	●●●			
Chop		●●●				
Eye of Shortloin	5150	●●●		●●●		
Rack	4932		●●●			
Rack Cap / On (Frenched)	4756		●●●			
Cutlet		●●●				

CUT	HAM	COOKING METHODS				
		GRILL	ROAST	STIR FRY	C/ROLE	
Rack Cap / Off (Frenched)	4764		●●●			
Cutlet		●●●				
Backstrap	5109	●●●		●●●		
Eye of Rack	5153	●●●		●●●		
Forequarter	4972		●●			
Square Cut Shoulder	4990		●●			
Chop		●●				
Shoulder Rack (Frenched)	4739		●●			
Cutlet		●●				
Foreshank	5030				●	
Oyster Cut Shoulder	4980		●●			
Shoulder (Easy Carve)	4994		●●			
Forequarter (Boneless)	5047		●●			
Shoulder Rolled / Netted	5050		●●			
Neck Fillet Roast	5059		●●			
Eye of Shoulder	5151		●●			
Tenderloin	5080	●●●				
Butt Tenderloin	5081	●●●				
Tenderloin / Butt Off	5082	●●●				
Breast & Flap	5010					
Neck	5020					
Spare Ribs	5015					

No recommended cooking methods

\*HAM: Handbook of Australian Meat, 7th edition.

## meat cooking methods

Cooking methods are some of the most important factors in consumer satisfaction and eating quality.



- Preheat oven to recommended temperature - refer table below.
- Place roast on a rack in a roasting tray.
- Follow suggested cooking times – refer table below.
- Periodically check internal temperature using a meat thermometer – refer table below.
- Remove from oven and cover with foil when cooked.
- Rest in warm place for 10-20 minutes for large roasts or 5-10 minutes for small roasts, like lamb racks and mini roasts, before carving.
- TIP: If roast is fillet, brown before roasting.

## roast



## panfry / grill

- Brush meat with oil instead of adding oil to pan. This will reduce the amount of oil needed and assist in sealing in the juices.
- Ensure that cooking surface is hot – there should be lots of sizzle.
- Place meat on surface and let cook until moisture appears, then turn (once only).
- Place in a warm place, or cover with foil and rest for 3-5 minutes.
- Minimum recommended thickness 15mm.



## casserole

- Meat should be cut into 20mm cubes.
- Brush meat with oil instead of adding oil to pan. This will reduce the amount of oil needed and assist in sealing in the juices.
- Brown meat in small batches (about 200g at a time) to prevent the meat from stewing. Set aside.
- Reduce heat and add onions, garlic and spices and sauté until transparent.
- Add flavourings, firm vegetables and liquid.
- Bring all ingredients to the boil and then reduce heat to low. Cover and simmer for approximately 2 hours or transfer to oven dish and cook in low oven (160°C) for 2 hours.
- Add soft vegetables in the last 20 minutes of cooking.



## stir fry

- Brush meat with oil instead of adding oil to pan. This will reduce the amount of oil needed and assist in sealing in the juices.
- Ensure that cooking surface is hot – there should be lots of sizzle.
- Brown meat in small batches (about 200g at a time) to keep the pan hot and prevent the meat from stewing.
- Remove from pan. Add aromatics (garlic, chilli and/or spices).
- Stir fry vegetables. Return meat and add any sauces.
- Heat through and be sure not to bring to the boil.
- If buying steaks cut into strips of meat to 75mm x 10mm x 10mm.
- Serve immediately.

SUGGESTED COOKING TIMES / 500G	Oven temp	Rare	Medium	Well done
Internal meat temperature		60°C	65-70°C	75°C
<b>LAMB</b>				
Leg, Shoulder, Easy Carve, Boned & Rolled Loin	180°C	20-25 min	25-30 min	30-35 min
Mini Roast, Eye of Short Loin	220°C	30-35 min	35-40 min	40-45 min
Rack	200°C	30-35 min	35-40 min	40-45 min



# brand development

Branded lamb and sheepmeat companies have the opportunity to underpin their brand with the MSA Trademark. This is recommended so brands can provide an eating quality guarantee for their product.

This is subject to a brand license agreement with MLA, which ensures the integrity of the product. All lamb and sheepmeat sold under the license agreement must be MSA certified and the enterprise's quality systems must adhere to MSA Standards Manual for Trademark Usage.

All product is sold under the company's own brand, using the MSA trade mark as a quality guarantee.

Branded lamb and sheepmeat companies may also choose to further refine their product specifications to differentiate their product from others in the market.

MLA offers a brand development support program to companies processing a minimum 500 head per week.

The MSA tenderness guarantee enables end users to guarantee consistent quality sheepmeat for their customers.

Participants must be licensed and adhere to the MSA Standards Manual for Trademark Usage which sets out conditions including product labelling and sale, to ensure product integrity. Audits are conducted on all licensed participants at regular intervals to check compliance to the Standards.

Point of sale and marketing support material is available to aid in display and to inform consumers.

Training packages for the trade include introductions to the MSA program and value adding workshops to maximise the potential of MSA in the trade.

# trade



Training modules have been developed for all participants in the MSA supply chain. Modules range from general program overviews to technical modules for processors and practical modules for end users.

**Producer workshops** - can be tailored to suit group requirements. Workshops include MSA program overview, producer recommendations and how to implement change on-farm to meet consumer expectations.

**Saleyards and agents** - provides MSA program overview and information regarding management of saleyard sheep to meet MSA requirements. This includes handling and lairage conditions.

**Processor training** - consists of technical modules for on-site processing staff covering MSA standards and requirements based on each critical control point identified in processing plants. This training is a pre-requisite for MSA licensed processors.

MSA deliver on-site training courses. Plant operatives may undertake all four training modules or be trained in their specific area of responsibility or need.

**End user training** - MSA overview includes information on how to eliminate eating quality failure using MSA technology, including the use of MSA cuts combined with cooking methods.

Please note any of the training listed above may be customised for a particular supply chain.

# training

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Further reading: MSA tips & tools sheepmeat information kit