

tips & tools

MEAT STANDARDS AUSTRALIA



MSA09

How MSA beef is graded

Licensing an abattoir

Abattoirs that process cattle for MSA must be licensed. Prior to obtaining a license, all processing critical control points of the abattoir are assessed as each can impact on the eating quality of the final product. This includes:

- Livestock receival areas to ensure cattle will not be stressed or injured
- The slaughter floor and chillers to determine the requirements for meeting the pH-temperature window (see *MSA Tips & Tools: The effect of the pH temperature decline on beef eating quality*).
- Conduct trial carcass grading to determine likely eating quality outcomes
- The boning room to determine packing and labelling capabilities

Sending cattle to the abattoir

Cattle to be graded under MSA are consigned to an MSA licensed abattoir (a list can be obtained from the MSA website). A Livestock Production Assurance National Vendor Declaration (LPA NVD) and an MSA vendor declaration, which is checked by the MSA accredited grader and livestock personnel, are sent with the cattle (see *MSA Tips & Tools: How to supply beef in the MSA system*).

Procedures prior to grading

Carcasses are split down the spine on the slaughter floor and the sides are placed together in the chiller overnight. Grading is generally carried out the next morning prior to commencement of the boning process.

The beef sides are cut at the loin prior to grading to expose the rib eye and a minimum of 20 minutes is allowed for the meat to bloom to its optimum colour. The loin must be less than 12 degrees Celsius.

The information about each lot, carcass numbers and tropical breed content are taken from the MSA vendor declaration and the abattoir slaughter floor production sheet.

Key points

- Determining the eating quality of MSA beef requires standards to be maintained from paddock to plate.
- Cattle that meet the MSA requirements are graded at MSA licensed abattoirs.
- Each carcass is graded by an MSA accredited grader with an eating quality score assigned to each individual cut.
- Cuts with the same eating quality are packed together with the MSA grade, recommended cooking method(s) and ageing requirements specified on the carton label.

The MSA model, which calculates the grading outcome for each carcass, is downloaded into a data capture unit (DCU). This is a small hand-held computer that the MSA accredited grader uses to record the information from each individual carcass during grading.

How carcasses are graded

Each carcass is identified with a carcass ticket and the following information is recorded in the DCU:

- Body number and lot number – cattle from individual vendors will be kept in separate lots.
- Carcass weight – important in determining weight for maturity.
- Sex – male or female.
- Tropical breed content – recorded from the MSA vendor declaration. The hump height is measured to determine the most accurate eating quality grade outcome.
- Hanging method – determined as being either Achilles hang or tenderstretch.



- Ossification – measured to determine carcass maturity.
- Marbling – using both the MSA and AUS-MEAT measurement systems.
- Rib fat – a minimum of 3mm is required, measured at the AUS-MEAT standard site, to ensure that the carcass has adequate fat cover to protect the carcass during the chilling process. Overall fat cover is also assessed including any hide puller damage. A primal that has an area greater than 10cm x 10cm affected by hidepuller damage will be ineligible for MSA.
- pH and temperature – pH is measured using a pH meter and must be below 5.71. Temperature should be below 12°C according to the AUS-MEAT standards.
- Meat colour – recorded using AUS-MEAT standard meat colour chips in a range of 1A (very pale) to 7 (very dark purple). As it is important to ensure that consumers are satisfied with the visual appearance, meat colours in the range of 1B to 3 are accepted depending on the abattoir or brand specification.

Information on each of these factors and their impact on beef eating quality is available in other MSA Tips & Tools.

Other measurements that do not impact on eating quality can be taken at the customers' request, including:

- Eye muscle area (EMA) – measured in square cm using an AUS-MEAT grid.
- Fat colour – recorded using AUS-MEAT chips from 0 (white) to 9 (yellow).

The carcass is given a grade code of 0 if all the specifications are met and the cuts can grade under MSA. If the carcass does not meet all the specifications it is given a grade code that indicates which of the specifications were not met.

Grade code	Reason
1	subcutaneous fat depth inadequate
3	fat distribution inadequate
4	pH above 5.70
5	meat colour out of specification
6	met grading requirements but does not meet company requirements
7	miscellaneous (can include bad bruising)
8	outside chiller assessment parameters
9	hide puller damage

Product identification and boning

After carcass measurements have been taken, each carcass is identified by a boning group number. Boning groups collate carcasses of similar eating qualities.

Carcasses with the same boning group are drafted, boned and the cuts packed together. Each cut contains a food grade insert in the vacuum sealed bag that identifies it as

MSA product. Carton labels on each box of MSA product identify the MSA grades, ageing periods and cooking methods for those cuts.

All carcasses that meet the MSA standard are handled and segregated in line with approved QA procedures.

Carcasses sent to butchers are broken down and sold according to MSA cut by cook method tables.

How grading feedback reports are generated

All information from the data capture unit is downloaded onto a computer. Detailed grading reports and summaries are printed onsite for distribution back to the producer.

Producers can also access their feedback electronically through the Feedback and Benchmark System on the MSA website at www.mla.com.au/msa

Integrity of the MSA standards

Registered producers are encouraged to attend an MSA workshop. This enables them to understand the factors that affect beef eating quality and the best management practices associated with them.

Licensed abattoirs are periodically audited by an independent third party to ensure the MSA standards are maintained. MSA trained operatives assist on the slaughter floor to ensure the pH temperature window requirements are met.

MSA trained graders who become accredited are regularly correlated against set standards to ensure consistency between all plants.

Licensed wholesale, retail and foodservice outlets are randomly audited by an independent third party.

For more information

Visit www.mla.com.au/msa or contact MSA 1800 111 672.



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Reprinted July 2013
 ISBN: 1 74036 564 X
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 ABN 39 081 678 364