

# t i p s & t o o l s

*Meat Standards Australia : MSA09*

## How MSA beef is graded

### Licensing an abattoir

All areas of the plant are assessed as each can impact on the eating quality of the final product. Receival areas are checked to ensure that they will not stress or injure the cattle. It is verified that the plant can slaughter cattle according to MSA time requirements.

The slaughter floor is assessed 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*). Cattle that are typical of those to be MSA graded are assessed to determine the likely grading outcome.

If the plant has a boning room, this initial carcass assessment is also used to determine boning room groups for carcasses so cuts with the same grade can be packed together. As cattle, or requirements change, these boning groups can be adjusted.

### Sending cattle to the abattoir

Cattle to be graded under MSA are consigned to an MSA licensed abattoir (a list can be obtained from your nearest MSA grading office). A national vendor declaration and an MSA vendor declaration, which is checked by the grader, 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 room. The beef carcasses are quartered prior to grading to expose the rib eye and 20 minutes are allowed for the meat to bloom to its optimum colour.

The information about each lot, carcass numbers and *Bos indicus* content are taken from the MSA vendor declaration and the abattoir kill sheet.

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



### KEY POINTS

- Guaranteeing 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 grader with a grade assigned for each individual cut
- Cuts with the same grade are packed together with the specified cooking method(s) and ageing period required for each grade level specified on the carton label
- Whole carcasses for the butcher trade receive butcher labels that outline the grade, ageing periods and cooking method(s) for each cut

computer that the grader uses to record the information from each individual carcass during grading. A plant specific grading program is also downloaded into the DCU. This contains the arrangement of boning groups for that plant.

### How carcasses are graded

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

- Body number & lot number – cattle from individual vendors will be kept in separate lots
- Carcass weight – important in determining weight for maturity
- Sex – graders are trained to assess the sex of the carcass
- *Bos indicus* content is recorded from the vendor declaration. The hump height is also measured to guarantee the most accurate eating quality grade.
- Hanging method is determined as being either Achilles hang or tenderstretch.
- Ossification is measured to determine carcass maturity.
- Marbling – using both the USDA and AUS-MEAT (provided in tenths) 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.
- pH and temperature – pH is measured using a pH meter and must be within the range of 5.3 to 5.7. Temperature should be below 12°C according to the AUS-MEAT standards.

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 include:

- 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 or 4 are accepted depending on the abattoir or brand specification.
- 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	Rib fat less than 3mm
2	Ossification out of specification
3	Fat distribution inadequate
4	pH above 5.70
5	Meat colour out of specification
7	Miscellaneous (can include bad bruising)
9	Hide puller damage
10	Met grading requirements but does not meet company requirements

A sample of meat, labelled with an individual bar code, is taken from every carcass that meets the minimum requirements for MSA. This enables a DNA traceback to be carried out if necessary. By this method, each piece of MSA graded meat can be linked back to an individual plant, producer and animal.

## Product identification and boning

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 stamped on both sides to identify them as MSA product. Carcasses that are

quartered for the butcher trade are stamped on both the forequarter and hindquarter at grading.

Butcher labels, generated by the grading information, identify the MSA grades, ageing periods and cooking methods for each individual cuts and accompany the MSA carcass to the retail outlet.

## How grading reports are generated

All information from the data capture unit is downloaded into the grader's laptop computer. Detailed grading reports and summaries are printed on site and provided to the abattoir for distribution back to the producer.

Producers can also access their feedback electronically through the MSA grading web site at [www.mla.com.au](http://www.mla.com.au).

## Keeping 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 checked to ensure the MSA standards are maintained. Where required, MSA graders assist on the slaughter floor to ensure the pH temperature window requirements are met.

Graders are regularly correlated against set standards to ensure consistency between all plants and over time.

Licensed wholesale, retail and foodservice outlets are randomly audited. MSA product is randomly purchased and tested to ensure that it is accurately labelled and meets the MSA consumer standards.

## For more information

Visit the MLA web site at [www.mla.com.au](http://www.mla.com.au)

Or contact your nearest MSA grading office or MLA for other tips & tools on the factors that affect beef eating quality.

## Contact

### Meat Standards Australia grading offices:

Brisbane: telephone 07 3842 3114  
 Wagga Wagga: telephone 02 6931 0371  
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