

# Meeting the Standards

Manual of Specifications and Guidelines for  
New Zealand Meat Processors and Wholesalers



beef & lamb  
*The very*  
**Best of**  
New Zealand  
TM

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# Introduction



The New Zealand Beef and Lamb Quality Mark was introduced to New Zealand consumers in 1997.

At that time, there was a major issue with the consistency of both beef and lamb. In particular, tenderness testing showed a significant proportion of beef (50%) was below acceptable levels of tenderness, whilst lamb showed unacceptable results of 25%.

The Quality Mark manual established mandatory standards based on achieving a consistent product for our New Zealand consumers.

Since the inception of the Quality Mark, tenderness testing shows the majority of beef and lamb is now testing at acceptable levels. In fact, such has been the success of the Quality Mark programme, there are relatively few changes to the standards. This second edition will replace the existing manual as of 1 April 2009.

A handwritten signature in blue ink that reads 'Rod Slater'.

Rod Slater  
Chief Executive Officer  
Beef and Lamb New Zealand  
April 2009



# A Quality Mark Review



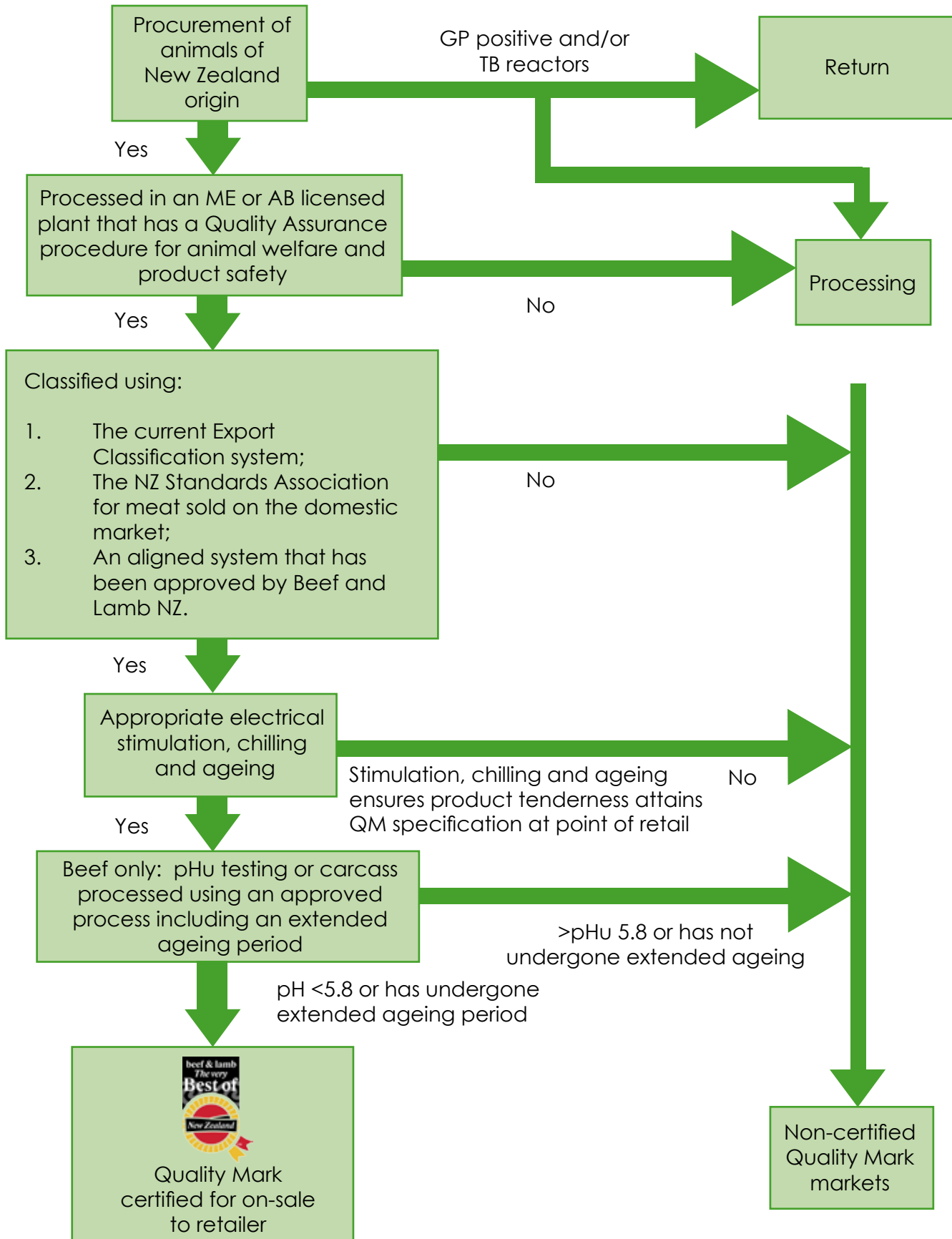
The monitoring and revision of these standards is carried out by the Quality Mark Advisory Group, which includes representation from producers, processors, wholesalers, retailers and the foodservice sector.

This manual contains an overview of specifications (mandatory procedures to be followed) and guidelines. Supporting material on the following topics are available as separate documents from Beef and Lamb New Zealand:

- pre-slaughter animal handling
- stunning
- carcass electrical stimulation
- carcass chilling
- meat ageing (which can occur at the plant, or during transport and subsequent storage)
- hygienic meat production and handling
- appropriate storage conditions



# Quality Mark Decision Tree - Processors



# Qualifying product and product that does not qualify



All categories of steers, heifers, young lean beef, veal and sheep meat other than mutton, as described in the current export classification system\*.

The Quality Mark may be used on carcasses, parts of carcasses, cuts, boneless product, whole muscle table meat, value-added specialty cuts, eg marinated (but excluding any pumped marinated product), stir-fry, crumbed schnitzel, seasoned roasts, corned or cured meat, ground meat and cubed or diced meat of 90% VL or above (85% CL).

The Mark may not be used on processed meat, eg sausage, salami, luncheon or patties, including hamburger patties, rissoles and meat balls, whether or not they are made from pure meat product.

The Mark may not be used on product derived from carcasses that, while fully accepted for human consumption, have reacted to tests undertaken for Tuberculosis (TB) status or show evidence of TB lesions that have been administered with Growth Promotants (GPs).

\* The definition for veal, which is not described in this system, is 'meat derived from a young bovine not over 12 months of age which, in the case of a male, does not show the secondary characteristics of a bull, and in the case of the female is not pregnant.'

## Meaning Product that is:

1. Derived from animals of New Zealand origin.
2. Derived from animals not treated with Growth Promotants (GPs) and have not reacted to TB testing or show evidence of TB lesions.
3. Processed in licensed ME or AB plants that are Beef and Lamb NZ levy payers, that have a Quality Assurance System covering animal welfare and a Product Safety Programme including transport.
4. Identified, where possible, in a manner that provides for trace back to the producing farm, or at least, where product was purchased.
5. Classified using either the current Export Classification system<sup>1</sup>, or an aligned system approved by the NZ Meat Board (NZMB).
6. Processed using an appropriate electrical stimulation, chilling and ageing regime to ensure the tenderness standard has been met by the time the product is on sale.
7. In the case of carcass and boxed beef, either:
  - a) ultimate pH of 5.8 and below (a tolerance of 0.05 is allowed for meter variability);
  - b) or, where ultimate pH is not measured, aged for a supplementary period defined on an individual plant basis following a process audit and shear force testing after ageing.

<sup>1</sup> Meat New Zealand's classification system became voluntary from 1 October 1999, under the Meat Board Act 1997, but most exporting companies still use the existing classification system and ciphers. This is a voluntary system administered by the New Zealand Meat Classification Authority and is protected by trademark. Licensed users of the system are audited by ASURE New Zealand Ltd.

## Product that does not qualify (on any one of these points):

1. Not of New Zealand Origin.
2. Mutton, cow and bull other than the Young Lean Beef category (XY).
3. Treated with Growth Promotants (GPs), reacted positively to TB test or show evidence of TB lesions.
4. Has been processed:
  - in a non-licensed premises;
  - by a party who is not a Beef and Lamb New Zealand levy payer;
  - in premises without a Quality Assurance System covering animal welfare and/or a Product Safety Programme including transport.
5. Has not been identified, where possible, in a manner that provides for trace back to the producing farm.
6. Not been classified using an approved system.
7. Not processed using the appropriate stimulation, chilling and ageing regimes.
8. Beef with an ultimate pH of 5.8 or greater, unless processed using an approved and regularly audited regime that includes the plant-specific ageing period.

# Scope of the Quality Mark Standard



## 1.1 Scope

This Standard establishes requirements for the quality system defined as the Beef and Lamb Quality Mark. It identifies each of the elements of a system to be designed, established and maintained by the retailer for the purpose of ensuring products conform to the requirements of the Standard.

## 1.2 Application

This standard applies to all processes where referenced in the standard relating to:

- The procurement of livestock
- The humane handling and slaughter of livestock
- Processing, storage and testing
- Disposition
- Identification
- Traceability
- Record keeping

## 1.3 Useful Documents

- Animal Products Act 1999.
- Animal welfare (commercial slaughter) code of welfare – due to be released in 2009.
- Australia New Zealand Food Standards Code
- Bickerstaffe, R., Bekhit, A.E.D., Robertson, L.J., Roberts, N. and Geesink, G.H. (2001). Impact of introducing specifications on the tenderness of retail meat. (*Meat Science*, 59: 303-315).
- Code of Recommendations and Minimum Standards for the Welfare of Animals at the time of Slaughter at Licensed and Approved Premises, Code of Animal Welfare No.10. July 1994. Ministry of Agriculture and Fisheries; Animal Welfare Advisory Committee.
- Code of Recommendations and Minimum Standards for the Welfare of Animals Transported within New Zealand. Code of Animal Welfare No. 15. November 1994. Ministry of Agriculture and Fisheries; Animal Welfare Advisory Committee.
- Electricity Regulations, 1997.
- FAO Animal Production and Health Manual: Good Practices for the Meat Industry.
- Food Act, 1981.
- Food Hygiene Regulations (1974); Sections 14, 15, 44, 46.
- Food Safety Certificate – unit 167 and 168 or equivalent.

- Guide to Beef Carcass Classification. July 2004. Issued by the New Zealand Meat Classification Authority.
- Guide to Lamb and Mutton Carcass Classification. July 2004. Issued by the New Zealand Meat Classification Authority.
- Meeting the Standards (Beef and Lamb New Zealand publication).
- NZFSA Meat Manual: Meat Manual.
- NZFSA Meat Manual: Industry Standard 4: Procurement of Animals for Use as Food.
- NZFSA Meat Manual: Industry Standard 6: Industry Agreed Standard 6 Processing of Edible Product.
- NZFSA Meat Manual: Industry Standard 8 Quality Assurance (MISC)/Industry Agreed Standard 8: Quality Assurance (VISC).
- NZFSA Meat Manual: Industry Standard 9: Storing and Transport.
- NZFSA Draft Meat Code of Practice – Further Processing Part 2 – Chapter 9.
- NZS 8403:1987 Classification of meat carcasses for sale on the New Zealand market. Standards New Zealand.
- NZS 6116:2006 Safe application of Electricity in the Meat Processing Industry. Standards New Zealand.
- New Zealand Standard Specification for Grades and Definitions of Joints and Cuts of Meat for Sale in the New Zealand Market, First Revision, NZ Standards Institute (1962).
- The New Zealand Meat Specifications Guide. Meat & Wool New Zealand publication, 2008.



# Websites and Definitions



## 1.4 Websites

Company/Topic	Acronym	Website
Beef and Lamb New Zealand	BLNZ	<a href="http://www.beeflambnz.co.nz">www.beeflambnz.co.nz</a>
Meat & Wool New Zealand	MWNZ	<a href="http://www.meatandwoolnz.com">www.meatandwoolnz.com</a>
NZ Food Safety Authority	NZFSA	<a href="http://www.nzfsa.govt.nz">www.nzfsa.govt.nz</a>
Ministry of Agriculture & Forestry	MAF	<a href="http://www.maf.govt.nz">www.maf.govt.nz</a>
Food Standards Australia New Zealand	FSANZ	<a href="http://www.foodstandards.gov.au">www.foodstandards.gov.au</a>
MAF Biosecurity New Zealand	MAFBNZ	<a href="http://www.biosecurity.govt.nz">www.biosecurity.govt.nz</a>
National Animal Welfare Advisory Committee	NAWAC	<a href="http://www.biosecurity.govt.nz/animal-welfare/overview/advisory/nawac">www.biosecurity.govt.nz/animal-welfare/overview/advisory/nawac</a>
Meat & Livestock Australia	MLA	<a href="http://www.mla.com.au">www.mla.com.au</a>
Safe Food education	MLA	<a href="http://www.safefood.net.au">www.safefood.net.au</a>
Food and Agriculture Organisation of the United Nations	FAO	<a href="http://www.fao.org/ag/agn/agns">www.fao.org/ag/agn/agns</a>
World Organisation for Animal Health	OIE	<a href="http://www.oie.int/eng/normes/mcode/en_sommaire.htm">www.oie.int/eng/normes/mcode/en_sommaire.htm</a>
Food Safety (USA)		<a href="http://www.foodsafety.gov/foodsafe.html">www.foodsafety.gov/foodsafe.html</a>
Standards NZ	SANZ	<a href="http://www.standards.co.nz/default.htm">www.standards.co.nz/default.htm</a>
NZ Legislation		<a href="http://www.legislation.govt.nz">www.legislation.govt.nz</a>
New Zealand Meat Board	NZMB	<a href="http://www.nzmeatboard.org">www.nzmeatboard.org</a>
AUS-MEAT Limited		<a href="http://www.ausmeat.com.au/auditing--accreditation/new-zealand-services.aspx">www.ausmeat.com.au/auditing--accreditation/new-zealand-services.aspx</a>
Food storage		<a href="http://pastrywiz.com/storage/refridgerated.htm">pastrywiz.com/storage/refridgerated.htm</a>

## 1.5 Definitions

<b>Q Mark</b>	NZ Beef and Lamb Quality Mark
<b>MAF</b>	Ministry of Agriculture & Forestry
<b>NZMB</b>	New Zealand Meat Board
<b>BLNZ</b>	Beef and Lamb New Zealand
<b>MIRINZ</b>	Meat Industry Research Institute of New Zealand
<b>CAR</b>	Corrective Action Report
<b>Processors</b>	Primary and/or secondary processor

<b>Wholesaler</b>	Secondary processor and/or distributor possessing owned facilities
<b>PHI</b>	Process Hygiene Index
<b>EU</b>	European Union
<b>GP</b>	Growth Promotants
<b>TB</b>	Tuberculosis
<b>ME</b>	Licensed Meat Export Slaughterhouse
<b>AB</b>	Licensed Abattoir

# Technical Requirements



## 2.1 General

The supplier shall maintain an effective system for quality management, planned and developed in conjunction with other functions, which is documented in the Company Quality Manual.

Requirements shall be met by the establishment, with implementation of procedures for the specific purpose of ensuring only acceptable product is delivered. In pursuing these requirements the system shall:

- a) demonstrate both recognition of the requirements affecting the Quality Mark, and an organised approach to satisfy these requirements;
- b) ensure the Quality Mark requirements are determined and programmes are established to satisfy such requirements including, as applicable, subsequent contractual services;
- c) provide for the early and prompt detection of actual or potential deficiencies, trends or conditions, which could result in unsatisfactory quality and provide for timely and effective corrective action;
- d) make available to the auditors appointed by BLNZ, objective evidence the Quality Mark system is effective.

## 2.2 Organisation

Effective management for quality shall be clearly prescribed by the processor. The responsibility and authority of all staff who manage, perform and verify work affecting the Quality Mark shall be defined.

The supplier shall appoint a management representative who has defined authority and responsibility for ensuring the requirements are implemented and maintained.

## 2.3 Review and Audit

- 2.3.1 All parties who apply to use the Quality Mark will be reviewed prior to being licensed as a User, to ensure they have systems in place to comply with all standards relevant to their operation.
- 2.3.2 All parties who have agreed to comply with the standards, will allow those standards to be audited as required by Beef and Lamb New Zealand.
- 2.3.3 The actual frequency of audit for any particular licensed Quality Mark holder will depend upon their level of compliance to the agreed standards, as evidenced by prior audit.
- 2.3.4 Notice may be given in the event of a default in compliance with the standards, the User is required to remedy such deficiencies. The detail of the process is set out in section 11 of the 'Quality Mark' processor agreement.



# Technical Requirements (cont)



## 2.4 Training

- 2.4.1 The processor shall establish and maintain procedures for identifying the training needs and requirements of all staff performing duties affecting the Quality Mark.
- 2.4.2 Staff performing such activities shall have appropriate education, training and/or experience for performing specific assigned tasks. Where training is applied, the company shall ensure suitable proficiency is achieved, maintained and recorded.

## 2.5 Work Instructions

The processor shall develop and maintain clear and complete documented instructions that prescribe the performance of work where such written instructions are necessary, for the achievement of quality. This work includes, but is not limited to, procurement, handling, processing, inspecting, testing, packaging, storing and any other treatment of product, facilities, standards or equipment. Such instructions shall provide the criteria for workmanship.

Instructions shall be available, comprehensible and used by personnel at all locations where work essential to the achievement of the Quality Mark is performed.

## 2.6 Product Identification and Traceability

The processor shall establish and maintain a system for identification and traceability that:

- Provides for trace back to the producing farm, where possible.
- Provides for identifying Quality Mark product during all stages from receipt, to production and delivery. Ideally this is achieved through use on carcasses, sides or quarters of a waterproof label, which either carries the Quality Mark logo or the letters 'QM'. Alternatively, the supplied Quality Mark stamp can be applied to product.
- All labels and stamps carrying the Quality Mark logo, or letters 'QM', are to be kept secure and properly accounted for by management in a similar manner to that followed for MAF brands.

## 2.7 Records

- 2.7.1 **General.** The supplier shall establish and maintain a system for the collection, filing and storage of records. The system shall require that sufficient records are maintained to demonstrate achievement of the required quality and the effective operation of the system. Pertinent subcontractor records shall be an element of this data. All records shall be legible and identifiable to the product involved.
- 2.7.2 **Retention of records.** Records shall be stored and maintained so they are readily retrievable in an environment that minimises deterioration, damage and prevents loss. Records shall be retained for one year or as required by MAF Regulations. Records shall be made available for auditor evaluation.



# Technical Requirements (cont)



## 2.8 Corrective Action

The processor shall establish and maintain procedures designed to detect and correct any conditions either in the supplier's or the sub-contractor's and vendor's operations pertaining to purchase, procedures, inspection, or other elements of performance that have, or could have, an adverse effect on product bearing the Quality Mark.

The processor shall provide for:

- a) continuing analysis of processes and work operations to detect and eliminate potential causes of non-conformity;
- b) continuing analysis of known or suspected non-conforming supplies to determine the cause and corrective action needed to prevent recurrence and the disposition of such supplies;
- c) effective management to ensure corrective actions accomplish their intended purpose;
- d) documentation of corrective action.

## 3.1 Growth Promotants and Tuberculosis Reactors

The processor shall establish and maintain procedures designed to assure cattle procured for processing under the guise of the Quality Mark have not:

- 1
  - a) reacted positively to TB testing;
  - b) show evidence of TB lesions.
- 2 Have not been treated with Growth Promotants (GPs).

These procedures cover:

- i) Prevention of GP-treated or TB-reacting cattle being procured for the intention of processing for the Quality Mark;
- ii) The detection of TB reacting cattle on receipt and in the yards, and the detection of cattle showing evidence of TB lesions after slaughter;
- iii) The detection of GP cattle on receipt, in the yards and/or after slaughter;
- iv) Records that clearly show any such cattle that have been slaughtered, were not destined for a Quality Mark market.

## 3.2 Animal Welfare

The processor is to have procedures, including a Quality Management Programme, and facilities in place to:

- i) Minimise stress.
- ii) Ensure the physiological needs of the animals are met.

The design, construction and maintenance of pre-slaughter facilities, handling and movement of animals is conducive with i) and ii).

- iii) Stunning and sticking is accomplished in a humane way in accordance with the Code of Recommendations and Minimum Standards for the Welfare of Animals at the time of Slaughter at Licensed and Approved Premises, Code of Animal Welfare No. 10. July 1994, MAF AWAC.

**Note: This aspect is of growing interest to consumers. MAF presently exercises responsibility to ensure these requirements are met. The intent of this standard is that all processors producing Quality Mark product act in a proactive manner, by putting their own documented system in place.**

# Technical Requirements



## 3.3 Classification

- Carcasses processed for the Quality Mark are to be classified using either the current Export Classification system, or the New Zealand Standards Association for meat sold on the domestic market, or an aligned system approved by BLNZ.
- Carton product shall be labelled in a manner that indicates the class or classes from which the meat is derived, with a clear description available to customers.

## 3.4 Appropriate Electrical Stimulation and Chilling Specification

Processors are to have procedures in place to ensure the tenderness of the product, by the time the product is offered for retail sale, has met the QM tenderness standard. This standard is:

- Mean shear force (tenderness) value 8 kgF or less.
- 95% of the samples to have a shear force of less than 11 kgF.
- Regular shear force testing to verify the electrical stimulation, chilling and ageing regime employed by the processor is producing product that complies with the QM tenderness standard as detailed above.
- For beef and veal, the following cuts must be aged to ensure the Quality Mark tenderness standard has been met prior to presentation for retail sale:
  - Tenderloin
  - Striploin (sirloin)
  - Cube roll (scotch fillet)
  - Thick flank
  - Rump
- The electrical stimulation, chilling and ageing regimes should be regularly checked to ensure they generate product that complies with the tenderness standard.

- If, due to mechanical failure or any other reason, the accepted processing specification has not been met, records showing the final distribution of the affected product is not to a Quality Mark standard, are to be kept.

## 3.5 pH Measurement or Extended Ageing Procedure (beef only)

### 3.5.1 pH measurement

Beef should have an ultimate pH (pHu) of 5.8 or less. (A tolerance of 0.05 is allowed for meter variability).

- i. The measurement is to be made in the cube roll or sirloin of one side (forequarter) of each carcass.
- ii. Measurement is to take place between rigor mortis set and load-out.
- iii. Calibration of the pH meter is to be performed at a frequency that ensures the accuracy of the measurements. This may be subject to random checks by the auditors.

### 3.5.2 Extended Ageing

- i. pHu does not have to be measured if an extended ageing period is provided to overcome issues with pH associated toughness.
- ii. Plants that are unable to measure the pHu (typically those using hot boning processes) or cold-boning processors that do not wish to measure the pHu, will be required to age Quality Mark cuts for an extended period.
- iii. An extended ageing and retail-ready time will be provided on an individual plant basis. The procedures required for this will consist of an independent process audit and shear force evaluations during ageing. For further information on this option, please contact BLNZ on freephone 0800 733 466.

# Contacts



## 3.6 Food Safety

Product temperature must be progressively reduced so the cold chain is maintained, to ultimately achieve a temperature (deep bone) of less than 7°C by the time the product is offered for retail sale. All procedures shall comply with standards specified in the NZFSA Meat Manual.

## 3.7 Transportation of Product

Processors, whether operating their own cartage operation or subcontracting, are to ensure the product temperature is progressively reduced so the integrity of the cold chain is maintained, to ultimately achieve a temperature (deep bone) of less than 7°C by the time the product is offered for retail sale. All product is to be transported in accordance with requirements of the NZFSA Meat Manual.

Periodic verification checks of product during transport using temperature loggers to be undertaken to verify this.

**Additional information on the technical requirements is available from Beef and Lamb New Zealand on freephone 0800 733 466.**

## Beef and Lamb New Zealand

Rod Slater	Chief Executive Officer	0800 733 466
Tanya Hart	Marketing/PR Manager	0800 733 466
Stan Sutherland	North Island Auditor	027 251 0222
Brian Raynes	South Island Auditor	021 654 518

## Carne Technologies

Nicola Simmons	Meat Quality	07 827 0731 027 255 3675
Clyde Daly	Electrical and Welfare Issues	07 827 0731 0274 166 783

# Guidelines for the Manual of Documented Procedures



## Manual Amendments

Amendments to this manual will be given a consecutive number and will be dated. Please ensure all amendments are inserted, obsolete pages removed, and the record below is signed and dated by the Manual Holder. All letters and interim instructions received from Beef and Lamb New Zealand are to be filed at the back of the manual.

Amendment Number	Entered by	Date	Amendment Number	Entered by	Date
1			11		
2			12		
3			13		
4			14		
5			15		
6			16		
7			17		
8			18		
9			19		
10			20		