



Australian Government

Department of Education, Employment and Workplace Relations

MTMPSR603A Manage meat processing systems to maintain and improve product quality

Release: 1

MTMPSR603A Manage meat processing systems to maintain and improve product quality

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to manage the enterprise quality system and maintain the quality of products. It includes the skills and knowledge to monitor, review, evaluate and improve enterprise operations to ensure delivery of meat and meat products that satisfy customer demands.
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Application of the Unit

Application of the unit	This unit is particularly appropriate for Quality Assurance (QA) personnel, production managers, cold chain coordinators and transport coordinators. Many factors impact on the quality, including eating quality, of meat and meat products, which affect prices and sales.
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Define meat quality	1.1. Relevant regulatory, scientific, industry and market information defining meat quality, and factors affecting meat quality, is researched and analysed. 1.2. Customer and consumer perceptions, expectations and requirements are identified and analysed. 1.3. Meat quality is defined and balanced against enterprise requirements for yield, cost and meat safety. 1.4. Enterprise meat quality specifications for suppliers or supplied product and end product are prepared. 1.5. Performance standards, including specifications, are established and data collection strategies are put in place.
2. Analyse production processes and systems for impact on meat quality	2.1. Meat quality control points along the value chain, including pre- and post-slaughter factors, are identified. 2.2. Production processes and systems are analysed against agreed criteria. 2.3. Enterprise operations including inputs, processes and technology are analysed and evaluated for impact on meat quality, yield and cost. 2.4. Recommendations to improve operations for product quality are prepared and presented. 2.5. Alliances with suppliers and customers are identified and established to improve quality at all points in the value chain. 2.6. Resource requirements for the achievement of meat quality specifications are identified and allocated.
3. Monitor meat product quality	3.1. Sampling and testing procedures and schedules are prepared, implemented and analysed. 3.2. Non-conformances with meat quality requirements are investigated. 3.3. Preventative and control measures are developed and implemented.
4. Evaluate meat quality outcomes	4.1. Performance is analysed and assessed against performance standards. 4.2. Continuous improvement strategies are developed and strategies for implementation prepared. 4.3. Consumer and customer feedback is analysed and acted on within the continuous improvement framework. 4.4. Recommendations for improving operations to maintain and enhance meat or meat product quality

ELEMENT	PERFORMANCE CRITERIA
	are developed and communicated to appropriate personnel

ELEMENT	PERFORMANCE CRITERIA
5. Promote enterprise meat quality outcomes	5.1. Meat quality outcomes are reported to stakeholders, including employees, customers and consumers. 5.2. Enterprise meat quality specifications are used to identify enterprise's market edge.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Ability to:

- evaluate current plant, equipment and processes for impact on meat and meat product quality
- assess and monitor the efficiency of improvements to meat and meat product quality
- apply relevant communication and mathematical skills
- monitor operations for meat and meat product quality
- develop performance criteria for meat and meat product quality
- evaluate product quality outcomes through the development of specifications and performance standards, analysis and interpretation of performance information including costs and sales
- improve product input and service quality through the development of alliances, supplier specifications and audit processes, monitoring input quality
- maintain currency of knowledge through independent research or professional development
- prepare and communicate information on meat and meat product quality outcomes to workforce, consumers and customers
- prepare recommendations for improving operations to maintain and enhance meat/meat product quality
- prepare specifications for enterprise product, including specifications for end product where not provided by customer, supplier and supplied product specifications, product description, labelling and claims
- research best practice in meat processing, meat manufacturing and meat preparation techniques and technology including computerised, mechanical and manual systems, and the impact on product quality
- take action to improve own work practice as a result of self-evaluation, feedback from others or in response to changed work practices or technology

REQUIRED SKILLS AND KNOWLEDGE

Required knowledge

Knowledge of:

- Hazard Analysis Critical Control Point (HACCP) principles, systems and food safety requirements for enterprise product.
- nutritional content and value of meat and meat products
- negative physiological changes of meat and their prevention (e.g. Dark, Firm and Dry (DFD) and Pale, Soft, Exudative (PSE))
- impact of species, breed, sex, age (dentition and ossification) and nutrition of livestock on meat and meat product quality
- enterprise requirements for product costs, prices and sales and how this influences enterprise definitions and achievement of product quality
- major physical, chemical/biochemical and microbiological characteristics and changes affecting the quality of meat and meat products
- relevant Occupational Health and Safety (OH&S) and workplace requirements
- optimum testing and sampling regimes to monitor and measure the quality of enterprise product
- meat tenderisation techniques and their suitability for enterprise product and operations, including:
 - advanced technological processes
 - calcium activated tenderisation
 - conditioning, including elevated temperature conditioning
 - electrical stimulation
 - further processing (e.g. cooking and smoking)
 - mechanical tenderisers (e.g. knife tenderisers)
 - product ageing process (e.g. rigor mortis, shear force and post mortem including calcium dependent) proteolysis
 - tenderstretching
- pre and post slaughter factors and their impact on meat and meat product quality
- biological and anatomical structures of major species processed in Australia for human consumption
- local and international meat and meat product description and grading systems operating in the Australian market, such as:
 - AUS-MEAT
 - Japan Beef Grading System
 - Meat Standards Australia (MSA)
 - United States Department of Agriculture (USDA) Grading System
- regulatory requirements impacting on enterprise operations and the quality of enterprise product

Evidence Guide

EVIDENCE GUIDE

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment

The meat industry has specific and clear requirements for evidence. A minimum of three forms of evidence is required to demonstrate competency in the meat industry. This is specifically designed to provide evidence that covers the demonstration in the workplace of all aspects of competency over time. These requirements are in addition to the requirements for valid, current, authentic and sufficient evidence.

Three forms of evidence means three different kinds of evidence - not three pieces of the same kind. In practice it will mean that most of the unit is covered twice. This increases the legitimacy of the evidence.

All assessment must be conducted against Australian meat industry standards and regulations.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

Competency must be demonstrated through sustained performance over time, at an appropriate level of responsibility and authority under typical operating and production conditions for the enterprise.

Context of and specific resources for assessment

Resources may include:

- a real work environment
- relevant documentation such as:
 - manufacturer instructions and operations manuals
 - regulatory requirements
 - workplace policies and procedures
- relevant equipment and materials

Method of assessment

Recommended methods of assessment include:

- a third-party referee report of sustained performance at appropriate level of authority and responsibility
- assignment focusing on understanding and application of principles and theory to workplace operations
- case study
- workplace project or audit with focus on company

EVIDENCE GUIDE	
	environment and conditions. Assessment practices should take into account any relevant language or cultural issues related to Aboriginality or Torres Strait Islander, gender, or language backgrounds other than English. Language and literacy demands of the assessment task should not be higher than those of the work role.

EVIDENCE GUIDE**Guidance information for assessment**

A current list of resources for this unit of competency is available from MINTRAC www.mintrac.com.au or telephone 1800 817 462.

Range Statement**RANGE STATEMENT**

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Criteria for defining ***meat quality*** may include:

- consumer preferences
- customer specifications
- eating quality standards (e.g. MSA).

factors affecting meat quality may include:

- pre and post slaughter:
 - breeding, farming and farm handling, including diet and nutrition
 - climate and seasonal variations
 - animal husbandry
 - cooking
 - further processing, refrigeration, packaging, storage and handling
 - livestock characteristics, including anatomy and biochemical characteristics
 - slaughtering and processing operations
 - transportation, handling and lairage
- physical, chemical and microbiological
 - bruising, bone damage and breaks
 - ecchymosis
 - hanging, ageing, tender stretching
 - loss of moisture
 - pH, myoglobin, glycogen, adrenalin, adenosine triphosphate (ATP), creatine phosphate, oxidation effects on taste,

RANGE STATEMENT	
	colour and tenderness • proteins, fats and carbohydrates • storage including vacuum packaged, frozen and chilled.

RANGE STATEMENT	
Monitoring processes may include:	• analysis of current and potential sales and prices • comparison of costs and prices against estimates • estimation of returns • preparation of resource proposals • establishing and monitoring sampling and testing procedures specific to each product • identifying quality specifications and tolerances • implementing preventative measures and controls • taking corrective action in the case of non-conformances.
Tests of meat and meat products may include testing for:	• ascorbate, erythorbate • ash • crude fat, chemical lean • intolerances (e.g. gluten, MSG) • meat content • moisture content • nitrate content • pathogens • pH • Pale, Soft, Exudative (PSE) • Dark, Firm and Dry (DFD) • preservatives (e.g. sulphur dioxide) • salt content • species • starch • water activity.
Recommendations for improving operations to maintain and enhance meat or meat product quality include:	• analysis of alternative configurations of labour and technology • identification and assessment of alternative or new processes • identification of appropriate resources, technology and processes • strategies for ensuring the quality of supplied product • updating of procedures for changes in technical knowledge and information.

RANGE STATEMENT	
Stakeholders may include:	• company owners, directors, shareholders, financiers • value chain partners • competitors • management and employees • regulators • suppliers, customers, consumers • unions and employer associations.

Unit Sector(s)

Unit sector	
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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