Modification history

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| Release | Comments |
| Release 1 | This version released with AMP Australian Meat Processing Training Package Version 8.0. |

| AMPQUA4X7 | Conduct and validate pH and temperature declines to MSA standards |
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| Application | This unit covers the skills and knowledge required to accurately calibrate and maintain pH equipment, conduct pH and temperature declines and weekly monitoring, as well as to validate results to ensure conformance to the pH and temperature window for meat carcases.  It is a license requirement for Meat Standards Australia (MSA) enterprises to achieve the pH and temperature window.  The skills and knowledge gained from this unit will allow individuals to monitor pH or temperature window to AUS-MEAT and MSA standards. This unit is suitable for people working in quality assurance (QA) or a company grading role.  All work must be carried out to comply with workplace procedures, in accordance with state/territory health and safety, food and meat safety regulations, legislation and standards that apply to the workplace.  No licensing, legislative or certification requirements apply to this unit at the time of publication. |
| Prerequisite Unit | Nil |
| Unit Sector | Quality Assurance (QUA) |

| Elements | Performance Criteria |
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| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 1. Operate and calibrate pH equipment | 1.1 Conduct calibrations on temperature measurement equipment  1.2 Conduct calibrations on pH monitoring equipment  1.3 Demonstrate correct technique for pH and temperature measurement |
| 2. Monitor the pH and temperature window of carcases | 2.1 Conduct pH and temperature checks for validation purposes, in line with MSA Standards  2.2 Collect monthly and weekly data for monitoring the window of carcases through the slaughter floor  2.3 Ensure readings are valid and sufficient  2.4 Record and report results |
| 3. Analyse monitoring data | 3.1 Generate individual and lot average graphs of data  3.2 Analyse results of pH and temperature monitoring  3.3 Recognise effects of heat shortening and cold shortening  3.4 Identify pH and temperature window |
| 4. Suggest corrective action plans non-conformance | 4.1 Identify and evaluate factors impacting on pH or temperature window conformance  4.2 Identify reasons for non-conformance  4.3 Suggest corrective actions for window non-conformance  4.4 Conduct trials to achieve window conformance |

| Foundation Skills  This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria. | |
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| Skill | Description |
| Reading | * Access and interpret MSA Standards Manual |
| Numeracy | * Generate graphs of pH and temperature data * Identify trends in numerical data |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| AMPQUA4X7 Conduct and validate pH and temperature declines to MSA standards | AMPA404 Conduct and validate pH and temperature declines to MSA standards | Unit sector code updated.  Performance criteria clarified.  Foundation skills added.  Performance Evidence, Knowledge evidence and Assessment Conditions revised. | Equivalent |
| AMPQUA4X7 Conduct and validate pH and temperature declines to MSA standards | AMPA3118 Monitor pH and temperature decline | Unit merged into redesigned unit | Not equivalent |

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| Links | Companion Volumes, including Implementation Guides, are available at VETNet:  <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5e2e56b7-698f-4822-84bb-25adbb8443a7> |

| TITLE | Assessment requirements for AMPQUA4X7 Conduct and validate pH and temperature declines to MSA standards |
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| Performance Evidence | |
| An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.  There must be evidence that the individual has conducted and validated pH and temperature declines to Meat Standards Australia (MSA) standards, for at least one lot of animal carcases, including:   * collected information on live animals for use in pH and temperature monitoring * conducted monthly and weekly monitoring of the pH and temperature window * observed, timed and followed carcases through the slaughter floor recording the following: * carcase information * chiller number * immobiliser information (where relevant) * rigidity probe information (where relevant) * stimulation information (where relevant) * time entering the chiller * time stunned * analysed results to verify conformance * generated individual and lot average graphs to show pH and temperature window conformance * suggested corrective actions. | |

| Knowledge Evidence |
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| An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:   * the scope and nature of MSA standards * MSA Standards Manual * impact of electrical stimulation on pH decline * impact of chilling factors on pH and temperature decline * how the time it takes a carcase to reach the chiller can impact on the rate of pH decline * pH and temperature window * how cold shortening occurs and characteristics of cold shortened product * how heat shortening occurs and characteristics of heat shortened product * how other electrical inputs can impact the rate of pH decline * the impact of slaughter floor temperature on rate of pH and temperature decline * glycogen and the relationship between stress and pH * pH and its importance for eating quality. |

| Assessment Conditions |
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| Assessment of the skills in this unit of competency must take place under the following conditions:   * physical conditions: * in a meat processing workplace or an environment that accurately represents workplace conditions * specifications: * workplace procedures, including advice on safe work practices, meat safety and quality * MSA Standards Manual * recording requirements, documentation and procedures * timeframes: * within typical operating and production conditions for the workplace.   Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards. |

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