Modification history

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| Release | Comments |
| Release 1 | This version released with FBP Food, Beverage and Pharmaceutical Training Package version 2.0. |

| FBPCHE4004 | Produce acid and heat coagulated cheese |
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| Application | This unit of competency describes the skills and knowledge required to produce a range of acid and heat-coagulated cheeses to a commercial standard.  This unit applies to individuals employed as managers with responsibility for overseeing and developing operational procedures complying with workplace health and safety, food safety, record keeping and quality assurance requirements for the acid and heat-coagulated cheese making process.  No occupational licensing or certification requirements apply to this unit at the time of publication. However, legislative and regulatory requirements for food processing exist so local requirements must be checked. All work must comply with Australian food safety standards and relevant codes of practice. |
| Prerequisite Unit | Nil |
| Unit Sector | Cheese (CHE) |

| 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. Maintain sanitation in making acid and heat-coagulated cheese | 1.1 Ensure all surfaces are clean and sanitised except for curing boards  1.2 Supervise stringent hygiene and quarantine procedures  1.3 Apply multi-phase cleaning systems to ensure sanitised surfaces and equipment  1.4 Record food safety related information including milk counts and cheese bacterial counts |
| 2. Implement procedures to prepare whey, milk/whey blends or cream for artisan acid and heat-coagulated cheese making | 2.1 Measure and analyse composition and counts in raw milk samples  2.2 Implement standard procedures for preparing raw milk  2.3 Ensure the whey is heated to prevent further acidification according to recipe  2.4 Maintain raw milk in an area separate from pasteurised milk operations |
| 3. Promote coagulation of both curds and whey | 3.1 Raise the temperature of dairy liquid to temperature specified in recipe  3.2 Acidify the hot liquid to coagulate both casein and whey proteins according to recipe  3.3 Hold the curd in the curd and whey mixture after coagulation  3.4 Maintain a log of pH and temperature to monitor yield  3.5 Carry out draining |
| 4. Manage cooking and packaging procedures for acid and heat-coagulated cheeses | 4.1 Plan the cooking schedule to ensure optimal coagulation of proteins  4.2 Implement draining procedures to ensure cheese is at required consistency  4.3 Apply salting treatments to ensure salt profile effects are minimised in the finished product  4.4 Cool cheeses before packing according to cooking and packaging procedures  4.5 Maintain aseptic conditions during cooling to minimise contamination with microbial contaminants  4.6 Apply packaging appropriate for acid and heat-coagulated cooked cheeses  4.7 Label the product with complete and accurate information as specified by legislation |
| 5. Monitor and adjust process control to produce cheese with consistent taste and quality | 5.1 Establish the process objectives of acid and heat-coagulated cooked cheese making  5.2 Control the texture of the cheese by regulating pH and fat  5.3 Control cheese flavour through choice of ingredients, such as whey, milk, cream, acidulant and salt  5.4 Establish process control parameters to optimise yield |
| 6. Carry out sensory analysis and grading of acid and heat-coagulated cheeses | 6.1 Assess cheeses for evenness of texture, colour, finish and flavour  6.2 Grade cheeses according to texture, colour, finish and flavour  6.3 Analyse organoleptic properties of acid and heat-coagulated cooked cheese to identify possible changes to process controls |
| 7. Meet workplace requirements for food safety, quality and environmental management | 7.1 Record food safety related information  7.2 Maintain records of cheese manufacture  7.3 Implement workplace health and safety and environmental protection procedures through a risk management approach  7.4 Implement food safety standards  7.5 Dispose of waste and review environmental impacts of the cheese making operation |

| 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 | * Interprets recipes and specifications from a variety of sources to consolidate information for cheese production |
| Numeracy | * Weighs and measures ingredients for cheese making * Tests cheese to analyse pH, moisture and salts * Accurately weighs and measures ingredients for cheese making * Samples cheese to analyse pH, fat, moisture and salts * Calculates cheese yields |
| Navigate the world of work | * Follows policies, procedures and legislative requirements for cheese making process |

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| Unit Mapping Information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| FBPCHE4004 Produce acid and heat coagulated cheese | FDFCH4004A Produce acid - heat coagulated cheese | Updated to meet Standards for Training Packages  Changes to Performance Criteria to clarify the intent of the unit  Minor change to title | Equivalent |

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| Links | Companion Volumes, including Implementation Guides, are available at VETNet: https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4 |

| TITLE | Assessment requirements for FBPCHE4004 Produce acid and heat coagulated cheese |
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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 effectively overseen the production of two different types of acid and heat coagulated cheese, including:   * acidifying a heated milk mixture to promote coagulation * carrying out drainage operations * carrying out the cooking process * recovering curd in the cheese * monitoring storage and ripening, where applicable, conditions for acid/heat-coagulated cheese * conducting tests for pH, moisture, fat and salt levels in cheese * maintaining records for cheese making * developing operating procedures for cheese making. | |

| 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 main components of milk, whey and cream for making acid and heat-coagulated cheese * specifications of product at each stage of cheese making * standardisation of dairy liquids for acid and heat-coagulated cheese * types of acid used for coagulation * microbial contaminants of cheese (lipolytic bacteria, yeasts, moulds, bacillus, listeria, E. coli, salmonella, coliforms and staphylococci) and their impact on cheese quality * sampling and testing procedures for microbes * yeasts and moulds and other microorganisms of significance in cheese making * contamination and food safety risks associated with the process and related control measures * techniques used to monitor the cheese making process, such as inspecting, measuring and testing, as required by the process * common causes of variation and corrective action required for each cheese making process * organoleptic properties and their relationship to processes and ingredients in cheese making * sampling procedures * aseptic conditions and techniques for cheese making * contamination risk of inoculants and contaminants * food safety and quality assurance standards and procedures * cleaning and sanitation procedures and Australian Standards * routine maintenance procedures * product/batch changeover procedures * work health and safety hazards and controls * hygiene procedures including washing and decontamination * procedures for recording production and performance information * environmental issues and controls relevant to the process, including waste collection and handling procedures related to the process * Food Standards Code * state/territory, Commonwealth and industry requirements relevant to food processing. |

| Assessment Conditions |
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| Assessment of skills must take place under the following conditions:   * physical conditions: * skills must be demonstrated in a workplace setting or an environment that accurately represents a real workplace * resources, equipment and materials: * production process and related equipment for acid and heat-coagulated cheese * sampling and testing equipment and procedures * specifications: * manufacturers’ advice and product specifications.   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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