Modification history

Release	Comments
Release 1	This version released with the FBP Food, Beverage and Pharmaceutical Training Package Version 3.0.

FBPCHE5XX2	Produce rennet coagulated artisan cheese
Application	This unit of competency describes the skills and knowledge required to produce a range of rennet coagulated artisan cheeses, including hard and semi-hard cheese. This unit applies to cheesemakers who have responsibility for overseeing the production of cheese, adapting the process where required to suit the specified outcome, and complying with workplace health and safety, food safety, recordkeeping and quality assurance requirements for the 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
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Prepare for artisan cheese making	1.1 Identify hazards and manage risks associated with producing cheese 1.2 Sanitise or pre-ripen a container of starter culture under aseptic conditions 1.3 Ensure all surfaces are clean and sanitised 1.4 Manage stringent personal hygiene and quarantine procedures throughout cheese making process 1.5 Record cheese production information according to workplace procedures
2. Prepare milk	2.1 Sample raw or pre-pasteurised milk and analyse composition 2.2 Confirm type of cheese to be produced 2.3 Standardise milk for consistent outcome, as required
3. Mix cheese ingredients in vat	3.1 Add colour to the milk to change the colour of the cheese according to cheese type 3.2 Add mould spores for mould-ripened cheeses according to cheese type 3.3 Add adjunct cultures to influence the texture and flavour of the ripened cheese according to required cheese type 3.4 Add enzymes to alter the flavour profile of the ripened cheese according to required cheese type 3.5 Acidify the milk with organic or inorganic acids before renneting according to required cheese type 3.6 Use acid to partly acidify the milk prior to adding culture to control the calcium phosphate level in the curd during cheese making, according to required cheese type 3.7 Add cultures and rennet to milk and hold at temperature according to recipe 3.8 Maintain a log of pH and temperature to monitor yield

Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
4. Cut and process the curd	4.1 Supervise curd cutting to achieve optimal yield and the required moisture level in the cheese 4.2 Monitor agitation and temperature of the curd and whey 4.3 Heat curd and whey as required and check for uneven curd or overheating according to required outcome 4.4 Plan the heating schedule to ensure optimal syneresis 4.5 Remove part of the whey and replace with water to wash lactose and lactic acid from the curd if required for specific cheese 4.6 Mat the curd under the whey to achieve required outcome if required for specific cheese 4.7 Remove all or part of the whey from the curds by draining out the vat, in line with required outcome 4.8 Prepare curd for milling if required for specific cheese
5. Monitor and adjust processing	5.1 Monitor processing to control moisture in cheeses 5.2 Control the rate and the amount of acid development 5.3 Control calcium phosphate levels to influence basic cheese structure 5.4 Control texture of the cheese by regulating pH, ripening agents, salt, moisture and fat 5.5 Control cheese flavour and pH levels by adding ingredients, such as milks, cultures, coagulating agents and salt 5.6 Control processing parameters to achieve optimal yield
6. Salt, press and age cheese	6.1 Prepare the curd or cheese for salting if required 6.2 Apply salting treatments to ensure adverse salt profile effects are minimised in the finished product 6.3 Place dry salted stirred or milled curd particles into moulds for pressing 6.4 Press cheese and remove from moulds 6.5 Apply treatments to, and age rennet coagulated cheeses to develop optimal flavour and texture, in line with required outcome 6.6 Maintain records of cheese production and ripening, as specified by legislation

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.

Skill	Description
Numeracy	• Weigh and measure ingredients for cheese making • Sample cheese to analyse pH, moisture and salts • Calculate cheese yields
Get the work done	• Adjust processing parameters and problem solve issues as they arise

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPCHE5XX2 Produce rennet coagulated artisan cheese		New unit	No equivalent unit

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 FBPCHE5XX2 Produce rennet coagulated artisan cheese

Performance Evidence

An individual demonstrating competency in this unit must satisfy all of the elements and performance criteria of this unit.

There must be evidence that the individual has produced at least two varieties of rennet coagulated cheeses, including:

- one washed curd cheese
- one milled curd cheese.

Knowledge Evidence

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 common types of rennet coagulated cheeses
- processes for making different types of rennet-coagulated cheeses
- the chemical composition of bovine and non-bovine milks and components important in cheese making
- types and impact of inhibitory substances in milk, including bacteriophage
- microbial contaminants of cheese (lipolytic bacteria, yeasts, moulds, bacillus, listeria, Escherichia coli, salmonella, coliforms and staphylococci) and their impact on cheese quality
- milk preparation for cheese making
- types of starters used and their role in the fermentation process
- types of adjunct cultures and their role in the flavour and texture characteristics of the ripened cheese
- use of bacterial cultures and rennet as a coagulating enzyme
- processes of coagulation and syneresis and their role in rennet-coagulated cheese making
- white and blue mould treatments
- critical control points in the manufacture of each cheese type
- the relationship between pressing and acidification
- effects of pH and temperature on cheese processing performance and product quality
- principles of brine salting and maintenance of brine salting systems for brine salted cheeses
- principles of dry salting for dry salted cheeses
- sampling and testing procedures
- contamination/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
- common causes of variation and corrective action required for each cheese making process
- organoleptic properties of rennet coagulated cheeses and their relationship to processes and ingredients in cheese making
- contamination risk of inoculants and contaminants
- food safety and quality assurance standards and procedures
- yield efficiency
- cleaning and sanitation requirements for cheese making
- workplace health and safety hazards and controls
- procedures for recording production and performance information
- environmental issues and controls relevant to the process, including waste collection and handling procedures
- Food Standards Code in relation to dairy processing
- state/territory, Commonwealth and industry requirements relevant to food processing.

Assessment Conditions

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

Assessment Conditions

• resources, equipment and materials:
  • ingredients, production process and related equipment for rennet coagulated cheese
  • sampling and testing equipment and procedures
  • food safety related information, including requirements for raw milk.
 	
Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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