



Australian Government

FBPCHE5005 Produce lactic acid coagulated artisan cheese

Release: 1

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Modification History

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

Application

This unit of competency describes the skills and knowledge required to produce lactic acid coagulated soft cheese in an artisan cheese making environment.

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, record keeping and quality assurance requirements for the cheese making process.

No 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.

Pre-requisite Unit

Nil

Unit Sector

Cheese (CHE)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for cheese making	1.1 Identify characteristics, make parameters and production goals of type of lactic acid coagulated cheese to be produced 1.2 Identify hazards and manage risks associated with producing cheese of specific type 1.3 Prepare milk and starter cultures using good hygiene practice

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	(GHP) 1.4 Ensure all surfaces meet cleanliness and sanitation requirements 1.5 Manage GHP and good manufacturing practice (GMP) throughout cheese making process 1.6 Record cheese production information according to workplace procedures
2. Prepare milk	2.1 Sample raw or pre-pasteurised milk to assess milk composition (fat, proteins, minerals, pH, titratable acidity) of milk in vat, and adjust make parameters accordingly 2.2 Confirm desired outcome of the cheese making process, based on milk composition and production goals 2.3 Standardise milk or modify make process for consistent outcome, as required
3. Inoculate milk to promote coagulation	3.1 Add starter culture to the milk and mix evenly according to cheese type and production goals 3.2 Add coagulating enzymes to the milk according to production goals 3.3 Maintain temperature throughout the tank or vat according to production goals 3.4 Maintain a log of pH, titratable acidity and temperature to control make, ripening and yield according to production goals
4. Process curds	4.1 Manage curd ladling, breaking or cutting to meet production goals 4.2 Plan the curd processing schedule to meet production goals 4.3 Drain curd to ensure required pH level and consistency according to production goals
5. Monitor and adjust cheese processing	5.1 Monitor the amount of moisture in cheese by regulating syneresis 5.2 Adjust calcium phosphate levels to influence basic cheese structure if required 5.3 Control texture of the cheese by regulating pH, salt, moisture and fat 5.4 Control cheese flavour through choice of ingredients, such as milks, cultures, coagulating agents and salt, make parameters and pH levels 5.5 Optimise yield by refining process control parameters

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
6. Manage ripening	6.1 Observe effects of ripening agents on cheeses 6.2 Optimise curing and ripening agents by planning for and adjusting the key composition ratios of acid-coagulated soft cheeses 6.3 Use surface treatments according to cheese type and recipe 6.4 Maintain records of cheese production and ripening, as specified by legislation
7. Conduct housekeeping activities	7.1 Clean equipment and work area in line with workplace procedures 7.2 Conduct routine maintenance activities 7.3 Dispose of waste in line with regulatory requirements

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
Reading	Interpret cheese make requirements from a variety of sources to consolidate information for cheese production
Writing	Document details of make process, including weights, temperature, humidity, pH, titratable acidity, salt and organoleptic parameters
Numeracy	- Accurately weigh and measure ingredients for cheese making - Sample cheese to analyse pH, fat, 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

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FBPCHE5005 Produce lactic acid coagulated artisan cheese	Not applicable	New unit	No equivalent unit

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

Assessment Requirements for FBPCHE5005 Produce lactic acid coagulated artisan 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 produced at least one type of lactic acid coagulated cheese, on two different occasions, with consistent texture, colour, finish and flavour.

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 main types of lactic acid coagulated cheeses
- the chemical and physical composition of bovine and non-bovine milks (including on a seasonal basis) and components important in cheese making
- the main components of milk and cheese (both curds and whey, proteins, fats, carbohydrates and minerals) and how they change through processing and ripening
- types and impact of inhibitory substances in milk
- specifications of desired cheese product at each stage of making and ripening
- milk assessment and preparation for cheese making
- ways to adjust the make process for the desired cheese depending on the milk composition
- types of starters and adjuncts used and their role in the fermentation and ripening processes
- typical bacterial, yeast and mould cultures and the flavours and textures they produce
- control points and critical control points in the manufacture and ripening of each cheese type
- moisture and drainage control in cheese making
- processes of coagulation and syneresis and their role in cheese making and ripening
- curd size and its impact on moisture and acidification
- buffer power in cheese and how it affects the cheese

- effects of pH, temperature, humidity and time on cheese processing performance and product quality
- impact of unwanted microorganisms in cheese (lipolytic bacteria, yeasts, moulds, bacillus, listeria, Escherichia coli, salmonella, coliforms and staphylococci)
- contamination risk of inoculants and contaminants
- temperature and humidity requirements for curing and ripening
- ripening agents for lactic acid coagulated cheeses
- 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
- principles of dry salting for dry salted cheeses
- organoleptic properties of lactic acid coagulated cheeses and their relationship to processes and ingredients in cheese making
- sampling and testing procedures for microbes
- sampling procedures for cheese making
- yield efficiency
- cleaning and sanitation procedures for cheese making and ripening
- workplace safety hazards and controls
- procedures for recording production and performance information
- environmental issues and controls relevant to the process, including waste recycling, 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 food processing workplace
- resources, equipment and materials:
 - cheese making ingredients and production process equipment
 - cheese ripening resources
 - sampling and testing equipment and procedures.

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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