



Australian Government

FBPDPR2006 Operate a fermentation process

Release: 1

FBPDPR2006 Operate a fermentation process

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 1.0.

Application

This unit of competency describes the knowledge and skills required to set up, operate, adjust and shut down a fermentation process typically used in the production of dairy products.

This unit applies to individuals who apply basic operating principles to the operation and monitoring of machines and equipment used for the fermentation of dairy products in a dairy production environment.

All work must be carried out to comply with workplace procedures, in accordance with State/Territory food safety, and work health and safety codes, regulations and legislation that apply to the workplace.

No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Dairy processing (DPR)

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 the fermentation equipment and process for operation	1.1 Confirm materials and personal protective equipment are available 1.2 Identify and confirm cleaning and maintenance requirements according to food safety requirements 1.3 Fit personal protective equipment and adjust machine components

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	and attachments needed for operating requirements 1.4 Enter parameters required to meet safety and operating requirements 1.5 Check and adjust equipment performance as required 1.6 Conduct pre-start checks according to workplace procedures
2. Monitor the fermentation process operation	2.1 Start up the fermentation process according to workplace procedures 2.2 Monitor equipment to identify variation in operating conditions 2.3 Identify variation in equipment operation and report maintenance requirements 2.4 Confirm that specifications are met at each stage 2.5 Identify, rectify or report out-of-specification product or process outcomes 2.6 Maintain the work area according to workplace guidelines, work health and safety and food safety requirements 2.7 Enter information in workplace records in required format
3. Shut down the fermentation process	3.1 Identify the appropriate shutdown procedure 3.2 Shut down the process according to workplace procedures 3.3 Identify and report maintenance 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	Read and interpret standard operating procedures for the fermentation process
Writing	Complete records according to workplace guidelines using paper-based and/or electronic media
Numeracy	Confirm process remains within specifications for time and temperature, flow rates and fermenter speeds

Skill	Description
Navigate the world of work	• Apply workplace procedures to own role and responsibilities • Understand main tasks, responsibilities and boundaries of own role, including use of personal protective clothing and equipment, housekeeping standards and environmental care requirements • Maintain a clean and hazard-free work area • Maintain hygiene standards
Interact with others	• Report operational and safety information to relevant personnel using required communication method
Get the work done	• Solve routine problems according to workplace guidelines and using experience of past solutions

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPDPR2006 Operate a fermentation process	FDFDP2006A Operate a fermentation process	Updated to meet Standards for Training Packages	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 FBPDPR2006 Operate a fermentation process

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Performance Evidence

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

There must be evidence that, on at least one occasion, the individual has set up, operated and monitored, and shut down a fermentation process, including:

- conducted pre-start checks on machinery used for fermentation of dairy products
- started, operated, monitored and adjusted fermentation process equipment to achieve required quality outcomes
- taken corrective action in response to typical faults and inconsistencies
- completed workplace records in required format
- applied safe work practices and identified work health and safety hazards and controls
- safely shut down equipment
- applied food safety procedures to work practices.

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:

- purpose and basic principles of the fermentation process, including the stages and reactions that occur during fermentation
- basic operating principles of equipment, including:
 - main equipment components
 - status and purpose of guards
 - equipment operating capacities and applications
 - the purpose and location of sensors and related feedback instrumentation
- services required and action to take if services are not available
- the flow of this process and the effect of outputs on downstream processes
- quality characteristics to be achieved by the fermentation process
- types of starters used and their role in the fermentation process

- quality requirements of materials and effect of variation on process performance
- operating requirements and parameters, and corrective action required where operation is outside specified operating parameters
- typical equipment faults and related causes, including:
 - signs and symptoms of faulty equipment
 - early warning signs of potential problems
- methods used to monitor the fermentation process, including inspecting, measuring and testing as required by the process
- inspection or test points (control points) in the process and the related procedures and recording requirements
- contamination and food safety risks associated with the process and related control measures
- common causes of variation and corrective action required
- work health and safety hazards and controls, including the limitations of protective clothing and equipment relevant to the work process
- requirements of different shutdowns as appropriate to the process and workplace production requirements, including:
 - emergency and routine shutdowns
 - procedures to follow in the event of a power outage
- isolation, lock out and tag out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the process, including waste or rework collection and handling procedures
- basic operating principles of process control, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures for fermentation equipment
- cleaning procedures for fermentation equipment.

Assessment Conditions

Assessment of this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - personal protective clothing and equipment
 - fermentation and related equipment and services
 - materials to be fermented
 - cleaning materials equipment and procedures
- specifications:
 - work procedures, including advice on safe work practices, food safety, quality and environmental requirements
 - information on equipment capacity and operating parameters

- production schedules and batch instructions
- specifications, control points and processing parameters
- sampling schedules and test procedures and equipment
- documentation and recording requirements and procedures
- relationships:
 - interactions with team members and supervisors or realistic scenarios or roleplays.

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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