



**AUSTRALIAN  
NATIONAL TRAINING  
AUTHORITY**

# Food Processing Industry

## FDF 98

### Dairy Competency Units

**NATIONAL FOOD INDUSTRY  
TRAINING COUNCIL**

<b>Qualification</b>	<b>Code</b>
Certificate III in Food Processing	FDF30198
Certificate II in Food Processing	FDF20198
Certificate I in Food Processing	FDF10198

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Published by: Australian Training Products Ltd  
GPO Box 5347BB  
MELBOURNE VIC 3001  
Telephone: +61 3 9630 9836 or 9630 9837  
Facsimile: +61 3 9639 4684

First Published: November 1998

STOCKCODE; 4820006STD

Printed by Document Printing Australia Pty Ltd, MELBOURNE AUSTRALIA

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FDF DPDC1 A

## Locate industry and company products and processes (Dairy Processing)

### Descriptor

This is a specialist unit that has been customised for the dairy processing sector. It covers the products and processes used in their workplace.

### Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Processes and procedures are carried out within company policy and procedures and legislative requirements
- Dairy processing processes typically include materials preparation, product processing, container filling, packaging and warehousing
- Stages refer to functions or activities in the production, packaging and despatch processes. Examples of typical stages are pumping, mixing, blending, filtration/clarification, separation, aeration concentration, homogenisation, heat treatment, , fermentation, cooling, packing, storing/despatching.

Element	Performance criteria	Evidence guide – Part A
Identify products and quality products	<p>Company product range is identified</p> <p>Quality requirements of final products are identified in accord with company standards</p>	<p>Part A of the Evidence guide identifies the knowledge to be demonstrated to confirm competence for this unit. Part B of the Evidence guide outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify materials and production requirements</li> <li>– identify and locate materials used in the work process</li> <li>– identify and locate production and/or packaging stages and processes in the workplace</li> <li>– comply with OHS and food safety requirements when moving around the workplace</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– range of final products produced by the company</li> <li>– basic understanding of brand image, company goals and philosophy</li> <li>– quality requirements/specifications for final products</li> <li>– consequences of product failing to meet quality requirements</li> <li>– stages and processes used to manufacture product</li> <li>– basic purpose of equipment used at each stage</li> <li>– outputs at each stage of the process (<i>cont.</i>)</li> </ul>
Identify and locate production and packaging processes	<p>Raw materials and related handling systems are located and operated as required</p> <p>Production and packaging stages and processes are identified</p> <p>Equipment used for each stage is located</p>	

Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– raw materials/consumables used</li> <li>– preparation, packaging, handling and storage of finished product prior to sale</li> <li>– OHS, quality, food safety and environmental requirements relating to own work</li> </ul>

## Evidence guide – Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to describe dairy processing products and processes given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production systems, stages and processes
- raw materials, in-process and finished product requirements and/or specifications

## Relationship to other units

Co-requisites:

- Communicate in the workplace
- Apply basic mathematical concepts
- Apply safe work procedures
- Apply basic quality assurance practices
- Apply basic food safety practices

## Relationship to learning resources

Main learning resources:

- Introduction to Dairy Food Processing

Related learning resources:

- Industrial Communication A
- Calculations A
- Occupational Health and Safety A
- Quality Assurance A
- Food Safety A (Hygiene and Sanitation A)





## FDF DPMP2 A

## Operate a membrane process

## Descriptor

This is a specialist unit that has been developed for the dairy processing sector. It involves operating a membrane process to separate the components of solutions and suspensions.

## Range of variables

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Membrane modules may be flat sheet (plate), spirally wound, hollow fibre, tubular
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in membrane processing may include cellulose polymers, synthetic polymers, inorganic ceramic materials
- Membrane may have a symmetrical, asymmetric or composite asymmetric structure
- Services may include power, steam, water, vacuum and compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based
- Work may involve exposure to hazardous or dangerous substances

Element	Performance criteria	Evidence guide – Part A
Prepare the membrane process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The membrane processing process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify production requirements for membrane processing</li> <li>– select, fit and use personal protective clothing and equipment</li> <li>– confirm supply of necessary materials and services to the membrane process</li> <li>– confirm equipment status and condition</li> <li>– set up and start up the process. This can involve the use of process control systems</li> <li>– monitor the membrane process and equipment operation to identify out-of-specification results or non-compliance (<i>cont.</i>)</li> </ul>

Element	Performance criteria	Evidence guide –Part A
Operate and monitor the membrane process	<p>The membrane process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p> <p>Separation of solutions and suspensions meets specifications</p> <p>Stock flow to and from membrane process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p> <p>Membrane systems are cleaned and sanitised to company requirements</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>– This may include monitoring: <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ flow rates</li> <li>➤ recording devices/gauges</li> <li>➤ valves and seals</li> <li>➤ pressure/vacuum</li> </ul> </li> <li>– monitor supply and flow of stock to and from the membrane process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– calculate and analyse product yield</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down membrane processing equipment in response to emergency situation</li> <li>– shut down membrane processing equipment in response to routine shutdown requirements</li> <li>– prepare membrane processing equipment for cleaning</li> <li>– clean and sanitise membrane systems</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Shut down the membrane process	<p>Membrane process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the membrane process</li> <li>– relationship between the membrane process and other dairy processes</li> <li>– stages and changes which occur during membrane processing</li> <li>– types and qualities of membrane materials and modules</li> <li>– factors that effect membrane performance</li> <li>– types of membrane processes</li> <li>– microbiological considerations in membrane processing</li> <li>– effect of membrane processing on materials and the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation (<i>cont.</i>)</li> </ul>
Recording information	<p>Workplace information is recorded in the appropriate format</p>	<p>(Continued from previous row)</p>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– significance and methods of monitoring control points within the membrane process</li> <li>– services used in membrane processing</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning and sanitation requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a membrane process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- membrane processing equipment

- services as required
- materials required for membrane processing
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a membrane processing the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Membrane Processing

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing

**Descriptor** This is a specialist unit that has been developed for the dairy processing sector. It involves operating a separation process to remove and concentrate fat and sediment from milk and dairy products.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Separation equipment may include hermetic separators, semi-open (hermetic) separators. Variations to the semi-open separators include soft stream inlet, cold milk separators, cream cheese or quarg separators
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Services may include power, water, vacuum and compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide - Part A
Prepare the separation process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The separation process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the separation process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the separation process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the separation process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring: (<i>cont.</i>)</li> </ul>
Operate and monitor the separation process	<p>The separation process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	

Element	Performance criteria	Evidence guide –Part A
Operate and monitor the separation process (continued)	<p>Removal of concentrate fat and sediment meets specifications</p> <p>Stock flow to and from separation process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ separation speed</li> <li>➤ product composition</li> <li>➤ flow rates</li> <li>➤ time/temperature</li> <li>➤ pressure</li> <li>➤ air/water/oil levels</li> <li>➤ seals and valves</li> <li>➤ discharge/desludging</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of stock to and from the separation process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> </ul>
Shut down the separation process	<p>Separation process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– report and/or record corrective action as required</li> <li>– calculate and analyse product yield</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down separation equipment in response to emergency situation</li> <li>– shut down separation equipment in response to routine shutdown requirements</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<ul style="list-style-type: none"> <li>– prepare separation equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the separation process</li> <li>– relationship between the separation process and other dairy processes</li> <li>– stages and changes which occur during separation</li> <li>– types of separation and separators</li> <li>– methods of controlling the separation process. May include temperature, control of fat content</li> <li>– methods of handling fines and sediment</li> <li>– microbiological considerations in the separation</li> <li>– effect of separation process on end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters (cont.)</li> </ul>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the separation process</li> <li>– services used in the separation process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a separation process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- material data safety sheets where appropriate

- specifications, control points and processing parameters
- separation equipment
- services as required
- materials required for a separation process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a separation process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Separation

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing



**Descriptor** This is a specialist unit that has been developed for the dairy processing sector. It covers the process of filling/forming dairy product into appropriate aseptic packaging.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Filling/forming equipment may include pumps, gable top fillers, bottle fillers, hermetic sealers, bulk bag fillers, aseptic packaging, aseptic plastic pouches, aseptic carton systems, aseptic form fill seal fillers, aseptic bottle fillers, bag-in-box fillers
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in filling/forming may include containers prepared under aseptic conditions such as cans, bottles, cartons, bags
- Services may include power, steam, water, sterile air, gases, vacuum, compressed and instrumentation air, refrigeration
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the filling/forming process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The filling/forming process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the filling/forming process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the filling/forming process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the filling/forming process and equipment operation to identify out-of-specification results or non-compliance (<i>cont.</i>)</li> </ul>
Operate and monitor the filling/forming process	<p>The filling/forming process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p>	

Element	Performance criteria	Evidence guide –Part A
Operate and monitor the filling/forming process <i>(continued)</i>	<p>Equipment is monitored to confirm operating condition</p> <p>Container sealing meets specifications</p> <p>Stock flow to and from filling/forming process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <p>This may include monitoring:</p> <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ flow rates</li> <li>➤ recording devices/gauges</li> <li>➤ pressure/vacuum</li> <li>➤ seals and valves</li> <li>➤ product weights and volumes</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of stock to and from the filling/forming process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> </ul>
Shut down the filling/forming process	<p>Filling/forming process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– calculate and analyse product yield</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down filling/forming equipment in response to emergency situation</li> <li>– shut down filling/forming equipment in response to routine shutdown requirements</li> <li>– prepare filling/forming equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<ul style="list-style-type: none"> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the filling/forming process</li> <li>– relationship between the filling/forming process and other dairy processes</li> <li>– stages and changes which occur during filling/forming</li> <li>– requirements of the filling/forming process</li> <li>– types of fillers</li> <li>– aseptic requirements in preparing containers</li> <li>– microbiological considerations in filling/forming and packaging</li> <li>– effect of filling/forming process on end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– significance and methods of monitoring control points within the filling/forming process <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– equipment and instrumentation components, purpose and operation</li> <li>– services used in filling/forming process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a filling/forming process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters

- filling/forming equipment
- services as required
- materials required for a filling/forming process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a filling/forming process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Filling/Forming

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing

**Descriptor** This is a specialist unit that has been developed for the dairy processing sector. It involves operating a curd production and cutting process in cheesemaking.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Curd production and cutting equipment will depend on the type of cheese products and may include vats
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in curd production may include milk, coagulants
- Services may include power, steam, water, compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide –Part A
Prepare the curd production and cutting process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The curd production and cutting process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the curd production and cutting process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the curd production and cutting process</li> </ul>
Operate and monitor the curd production and cutting process	<p>The curd production and cutting process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	<ul style="list-style-type: none"> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the curd production and cutting process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring:                             <ul style="list-style-type: none"> <li>➤ speeds</li> <li>➤ flow rates (<i>cont.</i>)</li> </ul> </li> </ul>

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the curd production and cutting process (continued)	<p>Curd meets specifications</p> <p>Stock flow to and from curd production and cutting process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ seals and valves</li> <li>➤ gauges</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of stock to and from the curd production and cutting process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– calculate and analyse product yield</li> <li>– conduct product/batch changeover</li> </ul>
Shut down the curd production and cutting process	<p>Curd production and cutting process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down curd production equipment in response to emergency situation</li> <li>– shut down curd production equipment in response to routine shutdown requirements</li> <li>– prepare curd production equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the curd production and cutting process</li> <li>– relationship between the curd production and cutting process and other dairy processes</li> <li>– stages and changes which occur during curd production</li> <li>– methods used to coagulate milk for cheesemaking</li> <li>– physical and chemical changes during curd production and cutting</li> <li>– factors affecting curd firmness</li> <li>– microbiological considerations in curd production</li> <li>– effect of curd production and cutting process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation (cont.)</li> </ul>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– significance and methods of monitoring control points within the curd production and cutting process</li> <li>– services used in curd production and cutting process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a curd production and cutting process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- material data safety sheets where appropriate

- specifications, control points and processing parameters
- curd production equipment
- services as required
- materials required for a curd production and cutting process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a curd production and cutting process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Curd Production and Cutting

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing



**Descriptor** This is a specialist unit that has been developed for the dairy processing sector. It involves operating a process to cool and harden dairy products to specifications.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Cooling/hardening equipment may include hardening tunnel, plate hardening machine, jacket holding tank, refrigeration, cooling towers
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Services may include power, water, vacuum, compressed and instrumentation air, refrigeration systems
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the cooling/hardening process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The cooling/hardening process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the cooling/hardening process</li> <li>- select, fit and use personal protective clothing and equipment</li> </ul>
Operate and monitor the cooling/hardening process	<p>The cooling/hardening process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	<ul style="list-style-type: none"> <li>- confirm supply of necessary materials and services to the cooling/hardening process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the cooling/hardening process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring:                             <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ flow rates</li> <li>➤ recording devices/gauges (<i>cont.</i>)</li> </ul> </li> </ul>

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the cooling/hardening process <i>(continued)</i>	<p>Product cooling and hardening meets specifications</p> <p>Stock flow to and from cooling/hardening process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ pressure</li> <li>➤ coolant circulation</li> <li>➤ seals</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the cooling/hardening process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– calculate and analyse product yield</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> </ul>
Shut down the cooling/hardening process	<p>Cooling/hardening process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down cooling/hardening equipment in response to emergency situation</li> <li>– shut down cooling/hardening equipment in response to routine shutdown requirements</li> <li>– prepare cooling/hardening equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<ul style="list-style-type: none"> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the cooling/hardening process</li> <li>– relationship between the cooling/hardening process and other dairy processes</li> <li>– stages and changes which occur during cooling/hardening</li> <li>– distinction between latent heat energy transfer and sensible heat energy transfer</li> <li>– action occurring during heat transfer</li> <li>– effect of cooling/hardening process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the cooling/hardening process</li> <li>– services used in cooling/hardening process</li> <li>– common causes of variation and corrective action required <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a cooling and hardening process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- cooling/hardening equipment
- services as required
- materials required for a cooling/hardening process
- stock flow system

- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a cooling and hardening process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Cooling/Hardening

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing

**Descriptor**

This is a specialist unit that has been developed for the dairy processing sector. It involves operating a process to add colouring/flavouring to dairy products.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Colouring/flavouring equipment may include mixers, blenders, tanks
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Food colouring must comply with the Australian Food Standards Code and may include natural, synthetic, caramel and carbon black additives
- Food flavouring must comply with the Australian Food Standards Code and may include natural, artificial and smoke flavour additives
- Services may include power, water, steam, and compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide –Part A
Prepare the colouring/ flavouring process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The colouring/flavouring process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify production requirements for the colouring/ flavouring process</li> <li>– select, fit and use personal protective clothing and equipment</li> </ul>
Operate and monitor the colouring/flavouring process	<p>The colouring/flavouring process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p>	<ul style="list-style-type: none"> <li>– confirm supply of necessary materials and services to the colouring/flavouring process</li> <li>– confirm equipment status and condition</li> <li>– set up and start up the process. This can involve the use of process control systems</li> <li>– monitor the colouring/flavouring process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring: (<i>cont.</i>)</li> </ul>

Element	Performance criteria	Evidence guide –Part A
Operate and monitor the colouring/flavouring/dosing process (continued)	<p>Equipment is monitored to confirm operating condition</p> <p>Product colouring and flavouring meets specification</p> <p>Stock flow to and from colouring/ flavouring process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ additive addition</li> <li>➤ agitation speed</li> <li>➤ flow rates</li> <li>➤ time/temperature</li> <li>➤ valves</li> <li>➤ gauges</li> <li>➤ measuring devices</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of stock to and from the colouring/flavouring process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– calculate and analyse product yield</li> <li>– conduct product/batch changeover</li> </ul>
Shut down the colouring/flavouring process	<p>Colouring/flavouring process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down colouring/flavouring equipment in response to emergency situation</li> <li>– shut down colouring/flavouring equipment in response to routine shutdown requirements</li> <li>– prepare colouring/flavouring equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of using food additives in dairy products</li> <li>– relationship between the colouring/flavouring process and other dairy processes</li> <li>– stages and changes which occur during colouring/flavouring</li> <li>– types of colouring and flavouring additives</li> <li>– distinction between natural and artificial food additives</li> <li>– microbiological considerations in preparing additives</li> <li>– effect of colouring/flavouring process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation (<i>cont.</i>)</li> </ul>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– significance and methods of monitoring control points within the colouring/flavouring/dosing process</li> <li>– services used in colouring/flavouring process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a colouring/flavouring process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- material data safety sheets where appropriate

- specifications, control points and processing parameters
- colouring/flavouring equipment
- services as required
- materials as required for a colouring/flavouring process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a colouring/flavouring process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Colouring and Flavouring

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing



**Descriptor**

This is a specialist unit that has been developed for the dairy processing sector. It involves operating a pressing and moulding process to produce cheese to specifications.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Cheese pressing and moulding equipment may include block forming towers, trolley table, tunnel press, pneumatic press, hydraulic press, screw press, moulds,
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in cheese pressing and moulding may include curd, salt,
- Services may include power, steam, water, vacuum and compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide – Part A
Prepare the pressing and moulding process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The pressing and moulding process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify production requirements for the pressing and moulding process</li> <li>– select, fit and use personal protective clothing and equipment</li> <li>– confirm supply of necessary materials and services to the pressing and moulding process</li> </ul>
Operate and monitor the pressing and moulding process	<p>The pressing and moulding process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p>	<ul style="list-style-type: none"> <li>– confirm equipment status and condition</li> <li>– set up and start up the process. This can involve the use of process control systems</li> <li>– monitor the pressing and moulding process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring: (<i>cont.</i>)</li> </ul>

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the pressing and moulding process <i>(continued)</i>	<p>Equipment is monitored to confirm operating condition</p> <p>Pressed and moulded product meets specifications</p> <p>Stock flow to and from pressing and moulding process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ equipment speeds</li> <li>➤ flow rates</li> <li>➤ time/temperature</li> <li>➤ seals and valves</li> <li>➤ gauges</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of stock to and from the pressing and moulding process</li> <li>– take corrective action in response to out-of-specification results or non-compliance.</li> <li>– report and/or record corrective action as required</li> <li>– calculate and analyse product yield</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down pressing and moulding equipment in response to emergency situation</li> </ul>
Shut down the pressing and moulding process	<p>Pressing and moulding process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down pressing and moulding equipment in response to routine shutdown requirements</li> <li>– prepare pressing and moulding equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the pressing and moulding process</li> <li>– relationship between the pressing and moulding process and other dairy processes</li> <li>– stages and changes which occur during pressing and moulding</li> <li>– types of additives and ingredients</li> <li>– microbiological considerations</li> <li>– effect of pressing and moulding process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the pressing and moulding process</li> <li>– control of pressing/moulding pressure <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– services used in pressing and moulding</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a pressing and moulding process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- pressing and moulding equipment
- services as required

- materials required for a pressing and moulding process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a pressing and moulding process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Pressing and Moulding

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing

**Descriptor**

This is a specialist unit that has been developed for the dairy processing sector. It involves operating a butter churning process to produce sweet cream butter product to specifications.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Butter churning equipment may include butter churn, augers, separator, salter, vacuum
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in butter churning may include pasteurised cream, salt
- By-product may include buttermilk, wash water
- Services may include power, water, steam, vacuum, compressed and instrumentation air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide –Part A
Prepare the butter churning process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The butter churning process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the butter churning process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the butter churning process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the butter churning process and equipment operation to identify out-of-specification results or non-compliance. This is may include monitoring:                             <ul style="list-style-type: none"> <li>➤ agitation speed</li> <li>➤ flow rates</li> <li>➤ time/temperature (cont.)</li> </ul> </li> </ul>
Operate and monitor the butter churning process	<p>The butter churning process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the butter churning process (continued)	<p>Butter product meets specifications</p> <p>By-product is collected and pumped to designated storage location for further processing</p> <p>Stock flow to and from butter churning process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ ingredient additions</li> <li>➤ measuring devices</li> <li>➤ valves</li> <li>➤ gauges</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of stock to and from the butter churning process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– calculate and analyse product yield</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down butter churning equipment in response to emergency situation</li> </ul>
Shut down the butter churning process	<p>Butter churning process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– shut down butter churning equipment in response to routine shutdown requirements</li> <li>– prepare butter churning equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the butter churning process</li> <li>– relationship between the butter churning process and other dairy processes</li> <li>– stages and changes which occur during butter churning</li> <li>– principles of product preservation</li> <li>– types of additives/ingredients</li> <li>– microbiological considerations in butter churning</li> <li>– effect of butter churning process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the butter churning process (<i>cont.</i>)</li> </ul>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– services used in the butter churning process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a butter churning process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- butter churning equipment
- services as required

- materials required for a butter churning process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a butter churning process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Butter Churning

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing



**Descriptor**

This is a specialist unit that has been developed for the dairy processing sector. It involves operating a blow moulding process to produce containers to specification to hold dairy products.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Blow moulding equipment may include resin blender, hopper, blow moulding machine, cooling bed, trimmer, leak detector, annealing tunnel
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- The common methods used in a blow moulding process include injection, extrusion, stretch
- Materials used in blow moulding may include resin, polyethylenes (or equivalent)
- Services may include power, water compressed air
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based
- Work may involve exposure to chemicals and dangerous or hazardous substances

Element	Performance criteria	Evidence guide –Part A
Prepare the blow moulding process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The blow moulding process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the blow moulding process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the blow moulding process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the blow moulding process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring: (<i>cont.</i>)</li> </ul>
Operate and monitor the blow moulding process	<p>The blow moulding process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p> <p>Equipment is monitored to confirm operating condition</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the blow moulding process <i>(continued)</i>	<p>Containers for dairy products meet specifications</p> <p>Materials flow to and from blow moulding process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ pump speed</li> <li>➤ flow rates</li> <li>➤ time/temperature</li> <li>➤ seals, valves</li> <li>➤ gauges</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of materials to and from the blow moulding process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– implement product changeover</li> </ul>
Shut down the blow moulding process	<p>Blow moulding process is shut down according to company procedures</p> <p>Blow moulding equipment and work area is cleaned and maintained to production and hygiene requirements</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down blow moulding equipment in response to emergency situation</li> <li>– shut down blow moulding equipment in response to routine shutdown requirements</li> <li>– prepare blow moulding equipment for cleaning</li> <li>– clean and sanitise equipment and work area</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the blow moulding process</li> <li>– relationship between the blow moulding process and other dairy processes</li> <li>– stages and changes which occur during blow moulding</li> <li>– types of materials used in blow moulding</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the blow moulding process</li> <li>– services used in blow moulding process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide – Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a blow moulding process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- blow moulding equipment
- services as required
- materials required for a blow moulding process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule
- sampling and testing schedules as required

- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a blow moulding process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Blow Moulding

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing

**Descriptor**

This is a specialist unit that has been developed for the dairy processing sector. It involves operating a holding/storage process under conditions that control the quality of the product.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Holding/storage equipment may include silos, intermediate storage tanks, aseptic storage tanks, mixing/blending tanks, process tanks, balance tanks
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials includes raw milk, processed product
- Services may include power, steam, water, gases, vacuum and compressed and instrumentation air, refrigeration
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide –Part A
Prepare the holding/storage process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The holding/storage process is set to meet production specifications</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– access workplace information to identify production requirements for the holding/storage process</li> <li>– select, fit and use personal protective clothing and equipment</li> <li>– confirm supply of necessary materials and services to the holding/storage process</li> <li>– confirm equipment status and condition</li> <li>– set up and start up the process. This can involve the use of process control systems</li> <li>– monitor the holding/storage process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring: (<i>cont.</i>)</li> </ul>
Operate and monitor the holding/storage process	<p>The holding/storage process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the holding/storage process (continued)	<p>Equipment is monitored to confirm operating condition</p> <p>Product holding/storage meets specifications</p> <p>Stock flow to and from holding/storage process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ flow rates</li> <li>➤ recording devices</li> <li>➤ agitation speed</li> <li>➤ stock rotation</li> <li>➤ organoleptic properties</li> <li>➤ leaks</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of stock to and from the holding/storage process</li> <li>– take corrective action in response to out-of-specification results or non-compliance. This can involve checking/adjusting/regulating report and/or record corrective action as required</li> </ul>
Shut down the holding/storage process	<p>Holding/storage process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– calculate and analyse product yield</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down holding/storage equipment in response to emergency situation</li> <li>– shut down holding/storage equipment in response to routine shutdown requirements</li> <li>– prepare holding/storage equipment for cleaning</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<ul style="list-style-type: none"> <li>– maintain work area to meet housekeeping standards</li> <li>– maintain report/record information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the holding/storage process</li> <li>– relationship between the holding/storage process and other dairy processes</li> <li>– holding/storage methods and processes</li> <li>– microbiological considerations in holding/storage</li> <li>– effects of the holding/storage process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the holding/storage process (<i>cont.</i>)</li> </ul>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– services used in the holding/storage process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning and sanitation procedures associated changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a holding/storage process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- holding/storage equipment
- services as required
- materials required for a holding/storage process

- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a holding/storage process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Holding/Storage

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing



**Descriptor**

This is a specialist unit that has been developed for the dairy processing sector. It involves operating a batch or continuous freezing process to produce ice cream, ice confection or ice milk to specifications.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- A freezing process may be either batch or continuous
- Freezing equipment may include dashers, pumps, fruit feeder, hardening rooms/tunnels/machines,
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Product types may be classified into include ice cream, ice confection, ice milk
- Materials used in freezing may include fat, milk solids not fat, sugars, emulsifiers, stabilizers, water, flavors, colour, bulking agents
- Services may include power, water, vacuum and compressed and instrumentation air, refrigeration
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide –Part A
Prepare the freezing process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The freezing process is set to meet production requirements</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the freezing process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the freezing process</li> </ul>
Operate and monitor the freezing process	<p>The freezing process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p>	<ul style="list-style-type: none"> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the freezing process and equipment operation to identify out-of-specification results or non-compliance. (cont.)</li> </ul>

Element	Performance criteria	Evidence guide – Part A
Operate and monitor the freezing process <i>(continued)</i>	<p>Equipment is monitored to confirm operating condition</p> <p>Frozen dairy product meets specifications</p> <p>Stock flow to and from freezing process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <p>This may include monitoring:</p> <ul style="list-style-type: none"> <li>➤ flow rates</li> <li>➤ churn speed</li> <li>➤ time/temperature</li> <li>➤ ingredient addition</li> <li>➤ overrun</li> <li>➤ pressure</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of stock to and from the freezing process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> </ul>
Shut down the freezing process	<p>Freezing process is shut down according company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company procedures</p>	<ul style="list-style-type: none"> <li>– calculate and analyse product yield</li> <li>– conduct product/batch changeover</li> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down freezing equipment in response to emergency situation</li> <li>– shut down freezing equipment in response to routine shutdown requirements</li> <li>– prepare freezing equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– record workplace information</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<ul style="list-style-type: none"> <li>– record workplace information</li> </ul> <p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the freezing process</li> <li>– distinction between continuous and batch freezing</li> <li>– relationship between the freezing process and other dairy processes</li> <li>– stages and changes which occur during the freezing process</li> <li>– types of ice cream and frozen milk products</li> <li>– physical state of ice cream components</li> <li>– microstructure of ice cream</li> <li>– types of additives and ingredients</li> <li>– microbiological considerations in freezing</li> <li>– effect of freezing process on the end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters <i>(cont.)</i></li> </ul>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the freezing process</li> <li>– services used in freezing process</li> <li>– common causes of variation and corrective action required</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a batch or continuous freezing process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- material data safety sheets where appropriate

- specifications, control points and processing parameters
- freezing equipment
- services as required
- material required for a freezing process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine preventative maintenance

Where related units form an integral part of operating a freezing process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Batch/Continuous Freezing

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing

**Descriptor** This is a specialist unit that has been developed for the dairy processing sector. It involves operating a fermentation process to produce dairy products

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial arrangements
- Workplace information can include Standard Operating Procedures (SOPs), specifications and production schedules
- Fermentation equipment may include water baths, cabinets, tunnels, multipurpose tanks, fermentation tanks
- Confirming equipment status involves checking that hygiene and sanitation standards are met, all safety guards are in place and equipment is operational
- Materials used in fermentation may include raw materials/pre-processed materials to be fermented, starters such as single strain starters, multiple strain cultures, mixed strains
- Services may include power, water, steam, gases, vacuum, compressed and instrumentation air, refrigeration
- Monitoring the process may involve the use of production data such as performance control charts
- Process operation and monitoring functions may be manual or involve the use of a process control system
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical) quality and regulatory control points as well as inspection points
- Information systems may be print or screen based

Element	Performance criteria	Evidence guide –Part A
Prepare the fermentation process for operation	<p>Materials are confirmed and available to meet production requirements</p> <p>Services are confirmed as being ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>The fermentation process is set to meet production specifications</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B outlines how this guide is to be applied. It should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>- access workplace information to identify production requirements for the fermentation process</li> <li>- select, fit and use personal protective clothing and equipment</li> <li>- confirm supply of necessary materials and services to the fermentation process</li> <li>- confirm equipment status and condition</li> <li>- set up and start up the process. This can involve the use of process control systems</li> <li>- monitor the fermentation process and equipment operation to identify out-of-specification results or non-compliance. This may include monitoring: <i>(cont.)</i></li> </ul>
Operate and monitor the fermentation process	<p>The fermentation process is started up according to company specifications</p> <p>Control points are monitored to confirm that performance is maintained within specification</p>	

Element	Performance criteria	Evidence guide –Part A
Operate and monitor the fermentation process (continued)	<p>Equipment is monitored to confirm operating condition</p> <p>Fermentation meets specifications</p> <p>Stock flow to and from fermentation process is maintained within production requirements</p> <p>Out-of-specification product, process and equipment performance is identified, rectified and/or reported</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>➤ time/temperature</li> <li>➤ flow rates</li> <li>➤ fermenter speed</li> <li>➤ seals and valves</li> <li>➤ gauges</li> </ul> <ul style="list-style-type: none"> <li>– monitor supply and flow of stock to and from the fermentation process</li> <li>– take corrective action in response to out-of-specification results or non-compliance</li> <li>– report and/or record corrective action as required</li> <li>– calculate and analyse product</li> <li>– conduct product/batch changeover</li> </ul>
Shut down the fermentation process	<p>Fermentation process is shut down according to company procedures</p> <p>Waste is collected, treated and disposed or recycled according to company waste management procedures</p>	<ul style="list-style-type: none"> <li>– sort, collect, treat, recycle or dispose of waste</li> <li>– shut down fermentation equipment in response to emergency situation</li> <li>– shut down fermentation equipment in response to routine shutdown requirements</li> <li>– prepare fermentation equipment for cleaning</li> <li>– maintain work area to meet housekeeping standards</li> <li>– maintain report/record information</li> </ul>
Recording information	Workplace information is recorded in the appropriate format	<p>May include the ability to:</p> <ul style="list-style-type: none"> <li>– clean and sanitise equipment</li> <li>– take samples and conduct tests</li> <li>– carry out routine maintenance</li> </ul> <p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and basic principles of the fermentation process</li> <li>– relationship between the fermentation process and other dairy processes</li> <li>– stages and changes which occur during fermentation</li> <li>– critical factors in the fermentation process</li> <li>– parameters for efficient fermentation</li> <li>– types of starters</li> <li>– fermentation reactions in milk</li> <li>– microbiological considerations in fermentation</li> <li>– effect of fermentation process on end product</li> <li>– quality characteristics to be achieved</li> <li>– process specifications, procedures and operating parameters</li> <li>– equipment and instrumentation components, purpose and operation</li> <li>– significance and methods of monitoring control points within the fermentation process (cont.)</li> </ul>

Element	Performance criteria	Evidence guide –Part A
		<p><i>Underpinning knowledge: (continued)</i></p> <ul style="list-style-type: none"> <li>– services used in the fermentation process</li> <li>– common causes of variation and corrective action</li> <li>– procedures and responsibility for reporting problems</li> <li>– environmental issues and controls</li> <li>– OHS hazards and controls</li> <li>– lock out and tag out procedures</li> <li>– shutdown and cleaning requirements associated with changeovers and types of shutdowns</li> <li>– waste handling requirements and procedures</li> <li>– recording requirements and procedures</li> </ul> <p>May include:</p> <ul style="list-style-type: none"> <li>– cleaning and sanitation procedures</li> <li>– sampling and testing procedures</li> <li>– routine maintenance procedures</li> </ul>

## Evidence guide - Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over a specified time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.

### Assessment context

Assessment must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to operate a fermentation process given:

- work procedures including advice on safe work practices, food safety and environmental requirements
- production schedule, batch/recipe instructions
- material data safety sheets where appropriate
- specifications, control points and processing parameters
- fermentation equipment

- services as required
- materials required for a fermentation process
- stock flow system
- related work areas and communication system
- relevant OHS clothing and equipment
- routine preventative maintenance schedule as required
- cleaning schedule as required
- sampling and testing schedules as required
- documentation and recording requirements and procedures

### **Relationship to other units**

Pre-requisites (or equivalent):

- Apply basic food safety practices
- Apply basic mathematical concepts
- Apply basic quality assurance practices
- Communicate in the workplace
- Apply basic food safety practices

Co-requisites:

- Implement occupational health and safety principles and procedures
- Collect, present and apply workplace information
- Implement the food safety plan
- Implement the quality system

Related units:

- Clean and sanitise equipment
- Apply sampling techniques
- Conduct routine tests
- Conduct routine maintenance

Where related units form an integral part of operating a fermentation process in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resource:

- Fermentation

Related learning resources:

- Cleaning and Sanitation
- Food Safety B (Hygiene and Sanitation B and C)
- Industrial Communication B
- Occupational Health and Safety B
- Quality Assurance B
- Routine Sampling
- Routine Testing





## FDF DPOS3 A

**Operate a system (Dairy Processing)****Descriptor**

This is a specialist unit that has been customised for the dairy processing sector. It covers the preparation and operation of a production or packaging system.

A system typically describes the operation of an entire process which may comprise a number of sub-systems. System operation requires higher level planning and problem solving skills than are necessary when operating an individual sub-system or piece of equipment. It can also involve facilitating the work of others.

**Range of variables**

The range of variables provides further advice to interpret the scope and context of this unit of competence. It assumes:

- Work is carried out in accordance with company procedures, licensing requirements, legislative requirements and industrial awards and agreements
- System operation typically involves planning, co-ordination and troubleshooting within their level of authority
- Dairy processing systems may include the production/packaging of butter, cheese, dessert, frozen milk, milk, milk powder and UHT products
- Control points refer to those key points in a work process which must be monitored and controlled. This includes food safety (critical), quality and regulatory control points as well as inspection points
- Information systems may be print or screen based
- Co-ordination, planning and troubleshooting is undertaken with assistance from others
- Workplace systems are in place to support production/packaging processes. These include quality, food safety, occupational health and safety and environmental management

Element	Performance criteria	Evidence guide – Part A
Prepare the system for operation	<p>Supply of materials is confirmed to meet production/packaging requirements</p> <p>Services are confirmed as available and ready for operation</p> <p>Equipment is checked to confirm readiness for use</p> <p>Equipment is set to meet specifications</p>	<p>Part A of the Evidence guide identifies the skills and knowledge to be demonstrated to confirm competence for this unit. Part B of the Evidence guide outlines how this guide is to be applied. Both parts should be read in conjunction with the Range of variables.</p> <p><b>Demonstrated ability to:</b></p> <ul style="list-style-type: none"> <li>– liaise with relevant work areas to confirm or secure necessary materials, services, equipment and labour to meet production/packaging requirements</li> <li>– confirm that all equipment within the system meets hygiene and sanitation standards, all safety guards are in place and equipment is ready for operation.</li> <li>– monitor implementation of set-up and start up procedures. This may involve monitoring the use of checksheets by others.</li> <li>– monitor observance of work procedures and systems (<i>cont.</i>)</li> </ul>
Operate and monitor a system	<p>A system is started up according to company procedures</p> <p>Control points are monitored to confirm performance is maintained within specification</p>	

Element	Performance criteria	Evidence guide – Part A
Operate and monitor a system <i>(continued)</i>	<p>Equipment is monitored to confirm operating condition</p> <p>System outputs meet specification</p> <p>Out-of-specification process and equipment performance is identified, rectified and/or reported</p> <p>Waste generated by the process is monitored and cleared as required</p>	<p><i>Demonstrated ability to: (continued)</i></p> <ul style="list-style-type: none"> <li>– monitor materials flow and work in progress through the system</li> <li>– confirm that the system operates within specified parameters and control points are monitored</li> <li>– determine responses to out-of-specification results or non-conformance within level of responsibility</li> <li>– co-ordinate batch/product changeovers</li> <li>– communicate information effectively</li> <li>– plan maintenance and cleaning procedures to minimise disruption</li> <li>– monitor operating efficiencies of the system and investigate, resolve and/or report problems</li> <li>– review and maintain procedures to support system improvements</li> </ul>
Shut down the system	<p>The system is shut down according to company procedures</p> <p>Cleaning requirements are identified</p> <p>Equipment is prepared for cleaning</p> <p>Equipment is cleaned and maintained to meet production/packaging and hygiene requirements</p> <p>Waste generated by both the process and cleaning procedures is collected, treated and disposed or recycled according to company procedures</p>	<p><b>Underpinning knowledge:</b></p> <ul style="list-style-type: none"> <li>– purpose and principles of the beverage production/packaging system</li> <li>– equipment purpose and operation including an understanding of process control systems where used</li> <li>– technical knowledge of product characteristics and processing requirements</li> <li>– codes and legislation relating to product and packaging requirements</li> <li>– equipment calibration schedule and responsibilities</li> <li>– type and purpose of tests conducted</li> <li>– related work areas and departments</li> <li>– relevant procedures, specifications and operating parameters</li> <li>– relevant systems and legislative</li> <li>– responsibilities in areas such as human resources, food safety, quality, occupational health and safety and environmental management</li> </ul>
Record information	<p>Workplace information is recorded and reported in required format</p>	<ul style="list-style-type: none"> <li>– industrial awards and agreements relating to system operation</li> <li>– hazards, risks, controls and methods for monitoring processes within the system</li> <li>– maintenance and cleaning requirements of equipment in production/packaging system</li> <li>– process improvement procedures and related consultative arrangements</li> <li>– troubleshooting procedures and problem solving techniques</li> <li>– recording and reporting requirements</li> </ul>
Contribute to continuous improvement of the system	<p>Quality of process outputs is assessed against specifications</p> <p>Opportunities for improvement are identified and investigated</p> <p>Proposals for improvements are developed and implemented within company planning arrangements and according to company procedures</p>	<ul style="list-style-type: none"> <li>– industrial awards and agreements relating to system operation</li> <li>– hazards, risks, controls and methods for monitoring processes within the system</li> <li>– maintenance and cleaning requirements of equipment in production/packaging system</li> <li>– process improvement procedures and related consultative arrangements</li> <li>– troubleshooting procedures and problem solving techniques</li> <li>– recording and reporting requirements</li> </ul>

## Evidence guide – Part B

### Assessment guide

- Assessment must take account of the food industry's endorsed assessment guidelines and may use the non-endorsed *Assessment Framework for the Food and Beverage Processing Industry NFITC June 1995*.
- The competencies described in this unit need to be performed over time and events, under normal workplace conditions, having due regard for the key assessment principles of validity, reliability, fairness and flexibility.
- Assessment should be structured on whole of work activities giving emphasis to confirming that the assessee can achieve the workplace outcomes described in the Performance criteria, including demonstration of the underpinning knowledge and skills contained in the Evidence guide.
- The equipment used should be the actual items described in the Range of variables and Assessment context.
- The procedures and documentation should be those typically used in a workplace. Compliance with statutory occupational health and safety, food safety, hygiene and environmental requirements relevant to the food processing industry should be emphasised.
- Assessment should reinforce the integration of the key competencies and the food industry's core competencies for the particular AQF level.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.
- Assessment should not require a higher level of communication competency than that specified in the core competencies for the particular AQF level.

### Assessment context

Assessment of this unit must occur in a real or simulated workplace. Such an environment must provide an opportunity for the assessee to prepare and operate a dairy processing production or packaging system given:

- work procedures including advice on safe work practices, food safety and environmental requirements for processes within the production/packaging system
- company policies and workplace systems including human resources, OHS, quality, food safety and environmental management
- production/packaging schedule
- sampling and testing schedules as required
- specifications, control points and processing parameters for processes within the production/packaging system
- production/packaging system equipment
- personnel operating the production/packaging system
- services
- related work areas and communication system
- relevant OHS clothing and equipment
- cleaning, calibration and maintenance schedules as required
- troubleshooting advice where available
- documentation and record keeping system
- planning, resources management and training arrangements

### **Relationship to other units**

Pre-requisites or equivalent:

- Collect, present and apply workplace information
- Implement occupational health and safety principles and procedures

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- Implement the quality system
- Implement the food safety plan

Co-requisites:

- Analyse and convey workplace information
- Monitor the implementation of occupational health and safety
- Monitor the implementation of the quality system
- Monitor the implement the food safety plan

Related units:

- Facilitate teams

Where related units form an integral part of system operation in the workplace, these units should be co-assessed.

### **Relationship to learning resources**

Main learning resources:

- Butter System Preparation and Operation
- Cheese Product System Preparation and Operation
- Cultured/Dessert Product System Preparation and Operation
- Market Milk System Preparation and Operation
- Milk Powder System Preparation and Operation
- Frozen Milk Product System Preparation and Operation
- UHT Product System Preparation and Operation

Related learning resources:

- Industrial Communication C
- Quality Assurance C
- Occupational Health and Safety C
- Food Safety C (Hygiene and Sanitation D)
- Work Team Communication