



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **FDFST4021A Carry out sampling and testing of milk at receipt**

**Release: 2**

## **FDFST4021A Carry out sampling and testing of milk at receipt**

### **Modification History**

April 2012: Minor typographical corrections.

### **Unit Descriptor**

This unit describes the skills and knowledge required to carry out sampling and testing procedures for milk received off farm.

### **Application of the Unit**

This unit applies to dairy processing personnel who have roles in product design, quality assurance and food safety, or production management. The unit typically applies to staff with responsibility for receiving and testing milk from the dairy farm as the first operation in market milk processing or the manufacturing of milk based products.

### **Licensing/Regulatory Information**

Not applicable.

### **Pre-Requisites**

Not applicable.

### **Employability Skills Information**

This unit contains employability skills.

### **Elements and Performance Criteria Pre-Content**

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

## Elements and Performance Criteria

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
1. Implement and monitor personal hygiene standards	1.1 Personal hygiene meets the requirements of the food safety program for milk receipt and handling 1.2 Risks to food safety are identified and reported 1.3 Clothing and footwear worn is appropriate for testing and handling milk and meets the requirements of the food safety program 1.4 Movement around the milk processing plant complies with the food safety program
2. Carry out standard tests to determine the blending and further processing requirements of milk	2.1 Implement procedures for receiving and handling milk 2.2 Requirements and procedures for milk testing are complied with 2.3 Sampling of milk is carried out as per sampling procedures 2.4 Milk testing equipment is prepared and operated 2.5 Data is recorded and stored in required format 2.6 Results are interpreted to determine that milk is within compositional and quality requirements
3. Respond to issues of contamination or other forms of non-conformance in the receipt of fresh milk	3.1 Procedures for taking corrective action are identified 3.2 Corrective and preventative measures are implemented to prevent recurrence 3.3 Procedures are devised or revised to support control measures 3.4 Processes or conditions which could result in a breach of procedures are identified and corrective action is taken 3.5 Process changes are introduced and controlled so that quality assurance requirements are accomplished
4. Review sampling, handling and testing procedures for fresh milk	4.1 Product sampling procedures are identified 4.2 Post collection procedures are identified according to SOPs 4.3 Test results are reviewed and responded to in accordance with workplace requirements

## Required Skills and Knowledge

This section describes the skills and knowledge required for this unit.

### Required skills

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#### Ability to:

- maintain hygiene in the milk processing environment
- carry out sampling of milk on receival according to procedures
- carry out standard tests on milk for plate counts, somatic cell counts, fat and protein levels, solids non fat, disk assay, rapid test for inhibitors and compositional analysis
- record the results of testing in standard formats
- implement procedures for standardising milk
- implement procedures for dealing with non compliance to farm milk quality standards including rejection.

### Required knowledge

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#### Ability to:

- the different types of market milk and related products
- proximate analysis profiles for milk from different commercial species of animals
- the properties of milk fats and spoilage reactions in milk fats
- the characteristics and importance in further processing of the two types of milk proteins
- the impact of nutrition and genetics on P/F ratios
- the mineral composition of milk and relationship between mineral and protein, fat and lactose levels
- the types of microorganisms present in fresh milk and their impact on milk storage and processing characteristics
- characteristics and food safety implications of antibiotic residues and mastitic milk
- nutrients and micronutrients levels in fresh milk as a source of human nutrition
- pathogenic organisms in fresh milk and processing and environmental controls
- the importance of trace antibiotics in milk in effecting market milk and milk for further processing
- the characteristics of mastitic milk and its impact on market milk and milk for further processing
- hygiene procedures for handling fresh milk
- sampling procedures
- raw milk quality tests
- interpretation of raw milk test results.

## Evidence Guide

<p>The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.</p>	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>Critical aspects of assessment must include evidence of the ability to carry out sampling and testing of milk at receival including: interpreting the results of milk testing, responding to issues with milk composition or quality, and reviewing the receival and testing process.</p>
Context of and specific resources for assessment	<p>Assessment of performance requirements in this unit should be undertaken within the context of food technology. Competency is demonstrated by performance of all stated criteria, including the critical aspects and knowledge and skills elaborated in the Evidence Guide, and within the scope as defined by the Range Statements applicable to the workplace environment.</p> <p>Assessment must occur in a real or simulated workplace where the assessee has access to:</p> <ul style="list-style-type: none"> <li>• Production process and related equipment, manufacturers' advice and operating procedures</li> <li>• Milk testing equipment</li> <li>• A milk receival facility at a dairy processing plant or simulation</li> <li>• Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment</li> <li>• Tests used to report relevant product/process information and recorded results.</li> </ul>
Method of assessment	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> <li>• Written and/or oral questioning to assess knowledge and understanding</li> <li>• Observation of candidate conducting a range of processes and tests</li> <li>• Third party report on sampling and testing milk in a dairy processing plant</li> <li>• A report on a review of milk receival for the effectiveness of hygiene, sampling and testing</li> </ul>

	procedures.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

## Range Statement

<p>The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.</p>	
<b>Legislation</b>	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labelling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
<b>Policies and procedures</b>	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
<b>OHS requirements</b>	<ul style="list-style-type: none"> <li>• Legislation, regulations and Codes of practice</li> <li>• safety data sheets (SDSs)</li> <li>• enterprise and process specific occupational health and safety requirements</li> </ul>
<b>Workplace requirements</b>	<ul style="list-style-type: none"> <li>• Enterprise QA policy, practices and procedures</li> <li>• Enterprise-specific procedures</li> <li>• SOPs</li> <li>• Task requirements</li> <li>• Work instructions.</li> </ul>
<b>Production system and product requirements</b>	<ul style="list-style-type: none"> <li>• These may include food safety, product quality, regulatory compliance, animal welfare (if required) and preventative maintenance.</li> </ul>
<b>Market milk and related products</b>	Includes standardised milk, whole fresh milk, recombined milk, vitamised milk, irradiated milk, mineralised milk, reconstituted or rehydrated milk, skimmed milk, heat treated or Ultra Heat Treated (UHT) milk, flavoured milks.
<b>Manufactured dairy products</b>	These include condensed milk, cream and butter, milk powder, butter, cheese, dairy blends, yoghurt, anhydrous milk fat and milk products with amendments or additives.

## **Unit Sector(s)**

Technical.