



Australian Government

Department of Education, Employment and Workplace Relations

FDFST5025A Implement and review the production of concentrated and dried dairy products

Release: 2

FDFST5025A Implement and review the production of concentrated and dried dairy products

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

This unit covers the skills and knowledge required to implement and review production standards and procedures for concentrated and dried dairy products.

Application of the Unit

This unit applies to food science and technology personnel who have roles in product design, quality assurance and production management. The unit typically applies to staff who have responsibility for maintaining product safety, quality and efficiency in food production in the dairy processing sector. This unit includes using knowledge of food science and processes to determine the required food safety, quality and performance required from food production equipment. Depending on the workplace application, liaison may be required with engineering and maintenance specialists.

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

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for the manufacture of concentrated and/or dried milk and related products	1.1 The statutory compositional requirements for the different types of concentrated and/or dried milk and related products is established 1.2 The required formulation of concentrated and/or dried milk and related products is selected 1.3 The appropriate production system and the preferred sequence of activity to prepare the system for operation is selected 1.4 Equipment is prepared and safe operating procedures accessed for its operation
2. Monitor the manufacture of concentrated and/or dried milk and related products to ensure quality standards are met	2.1 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.2 Production system is set to operating specifications before and during production 2.3 Data requirements appropriate for food safety, quality and production standards are interpreted 2.4 Data collection points consistent with equipment capabilities and data requirements are established 2.5 Procedures to deal with non-conformance in relation to process and the final product are interpreted or developed 2.6 Concentration and drying procedures are implemented and monitored 2.7 Process controls for the preparation and manufacture of concentrated and/or dried milk and related products are implemented and supervised
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of concentrated and/or dried milk and related products	3.1 Sensory evaluation and product testing protocols used to identify defects are established 3.2 A system used to identify defects in the preparation and manufacture of concentrated and/or dried milk and related products is applied 3.3 Adjustments to process and equipment, as identified, are implemented 3.4 Problems are reported to designated person according to company policies and procedures
4. Review production processes	4.1 The critical control points (CCPs) and critical limits for product safety are reviewed 4.2 A sampling plan is developed and implemented for concentrated and dried dairy products 4.3 Sensory analysis is conducted and analysed 4.4 Food tests are undertaken 4.5 Operating procedures are reviewed for food safety and quality 4.6 Safe work systems for processing of concentrated and dried dairy products are reviewed 4.7 Environmental impacts and energy efficiencies are reviewed for

ELEMENT

PERFORMANCE CRITERIA

processing of concentrated and dried dairy products

Required Skills and Knowledge

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

Required skills include:

Ability to:

- select the formulation of concentrated and dried dairy products
- interpret a production schedule to ensure all resources and requirements are available and meet company requirements
- set the production system to operating specifications before and during production
- implement and supervise the production system for the preparation and manufacture of concentrated and dried dairy products
- identify the potential product defects and non conformances and their causes which may arise in the preparation and manufacture of concentrated and dried dairy products
- implement adjustments to process/equipment in response to system review
- report problems to designated person according to company policies and procedures
- overview the implementation of the HACCP plan
- carry out product sampling and testing according to the HACCP plan and operational procedures
- provide relevant information to work colleagues to facilitate understanding of, and compliance with, the Australian Standards and associated regulations
- take action to improve own work practice as a result of self-evaluation, feedback from others, or changed work practices, regulations or technology
- use technology to access information, prepare reports, and to access and prepare relevant data
- implement workplace OH&S procedures.

Required knowledge includes:

Knowledge of:

- different types and formulation of concentrated and/or dried milk and related products
- production systems used for the preparation and manufacture of concentrated and/or dried milk and related products
- the output of each of the processes used in the preparation and manufacture of concentrated and/or dried milk and related products
- the major ingredients found in concentrated and/or dried milk and related products
- the interrelationships between suppliers of products and internal/external customers
- preparation and manufacture of concentrated and/or dried milk and related products including mix standardisation/ calculation, mixing /blending, homogenisation, heat treatment, packaging, and storage and distribution
- the production system for the preparation and manufacture of concentrated and/or dried milk and related products including production instruction, quality assurance requirements and or/specifications, production specification and or/standards, production equipment, production procedures, cleaning procedures and materials and raw materials

- critical factors in the preparation and manufacture of concentrated and/or dried milk and related products
- potential product defects and their causes, which may arise in the preparation and manufacture of concentrated and/or dried milk and related dairy products
- specific domestic and export market specifications for concentrated and/or dried milk and related products
- quality and continuous improvement processes
- sensory analysis techniques
- chemical and physical hazards which may affect milk based products
- sampling and testing techniques and analysis of data
- procedures for milk product storage, handling and preparation
- safe work procedures
- sanitation and hygiene procedures
- HACCP principles and critical limits in a HACCP program
- identification of Critical Control Points (CCPs) and critical limits
- water and energy use and recycling in processing
- regulatory requirements associated with concentrated and dried dairy products
- environmental impacts of the food processing operation
- safe systems of work.

Evidence Guide

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.

Overview of assessment	A person who demonstrates competency in this unit must be able to implement and review production standards and procedures for concentrated and dried dairy products.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to implement manufacturing of concentrated and dairy products including: implementing process control procedures and data collection; diagnosing and reporting problems for manufacturing; carrying out sensory evaluation and product testing; and reviewing the concentrated and/or dried milk and related products production system for food safety and quality and environmental impact.
Context of and specific resources for assessment	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. Assessment must occur in a real or simulated workplace where the assessee has access to: • Production process and related equipment, manufacturers' advice and operating procedures • Methods and related software systems as required for collecting data and calculating yields, efficiencies and material variances appropriate to production environment • Tests used to report relevant product/process information and recorded results.
Method of assessment	The following assessment methods are suggested: • A report detailing the review of manufacturing concentrated and dried dairy products • Observation of candidate conducting a range of tests and procedures • Written and/or oral questioning to assess knowledge and understanding

	• Completing workplace documentation • Third party reports from experienced practitioner • Case studies • Field Reports.
Guidance information for assessment	Evidence should be gathered over a period of time in a range of actual or simulated environments.

Range Statement

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.

Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
Legislation	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.
OHS requirements	• legislation, regulations, Codes of practice • safety data sheets (SDSs) • enterprise and process specific occupational health and safety requirements.
Materials and equipment	May include dairy/dairy product processing chemicals, dairy/dairy products processing equipment.
Dried dairy products	Include milk powders, whey powders and whey protein concentrates.
Concentrated dairy products	Include condensed milks, sweetened condensed milks, evaporated skim or whole milk, condensed buttermilk and condensed whey.

Unit Sector(s)

Technical.