



Australian Government

Department of Education, Employment and Workplace Relations

FDFST5026A Implement and review the production of ice creams and frozen dairy products

Release: 2

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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 ice creams and frozen 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 ice creams and frozen dairy products	1.1 The statutory compositional requirements for the different types of ice creams and frozen dairy products is established 1.2 The required formulation of ice creams and frozen dairy products is selected 1.3 The appropriate production system and the preferred sequence of activity to prepare the system for operation are selected 1.4 Equipment is prepared and safe operating procedures accessed for its operation
2. Monitor the preparation and manufacture of ice creams and frozen dairy products to ensure quality standards are met	2.1 Resource requirements for the preparation and manufacture of ice creams and frozen dairy products are identified and sourced 2.2 A production schedule is implemented to ensure all resources and requirements are available and meet company requirements 2.3 Production system is set to operating specifications before and during production 2.4 Chilling and refrigeration procedures are tested 2.5 Data requirements appropriate for food safety, quality and production standards are determined 2.6 Data collection points consistent with equipment capabilities and data requirements are established 2.7 Procedures to deal with non-conformance in relation to process and the final product are developed 2.8 Process controls for the preparation and manufacture of ice creams and frozen dairy products are implemented and supervised
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of ice creams and frozen dairy products	3.1 Potential product defects and their causes, which may arise in the preparation and manufacture of ice creams and frozen dairy products, are identified 3.2 Sensory evaluation and product testing protocols used to identify defects are established 3.3 A system to identify defects in the preparation and manufacture of ice creams and frozen dairy products is implemented 3.4 A sampling plan is developed and implemented for ice creams and frozen dairy products 3.5 Sensory analysis is conducted and analysed 3.6 Food tests are undertaken 3.7 Adjustments to process & equipment, as identified, are made 3.8 Problems are recorded and 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 Operating procedures are reviewed for food safety and quality 4.3 Safe work systems for processing of ice creams and frozen dairy products are reviewed

ELEMENT

PERFORMANCE CRITERIA

4.4 Environmental impacts and energy efficiencies are reviewed for processing of ice creams and frozen dairy products

Required Skills and Knowledge

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

Required skills include:

Ability to:

- incorporate confectionary, flavourings and fruits into ice creams and frozen dairy desserts
- identify defects in the preparation and manufacture of ice creams and frozen dairy desserts
- 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

Knowledge of:

- types of ice creams and frozen dairy products
- the role of the major ingredients found in ice creams and frozen dairy products
- the production system for the preparation and manufacture of ice creams and frozen dairy 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
- the output of each of the processes used in the preparation and manufacture of ice creams and frozen dairy products
- the principles of operation of equipment and accessories used in the preparation and manufacture of ice creams and frozen dairy products
- the interrelationships between suppliers of products and internal/external customers
- specific domestic and export market specifications for ice creams and frozen dairy products
- different types and formulation of ice creams and frozen dairy products
- pretreatment, cooking and incorporation of confectionary, flavourings and fruits
- critical factors in the preparation and manufacture of ice creams and frozen dairy products
- identification of defects during production and of final products
- testing procedures for raw materials through to manufactured product
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques

- chemical and physical hazards which may affect ice creams and frozen dairy products
- storage, handling and preparation procedures for ice creams and frozen dairy products
- 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 ice creams and frozen 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 ice creams and frozen 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 processes for ice creams and frozen dairy desserts including: implementing process control procedures and data collection; diagnosing and reporting problems in manufacturing; carrying out sensory evaluation and product testing of ice creams and frozen dairy products; and reviewing the 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 ice creams and frozen dairy products • 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.

Legislation	Legislative requirements are typically reflected in procedures and specifications. Legislation relevant to this industry includes the Food Standards Code including labeling, weights and measures legislation; and legislation covering food safety, environmental management, occupational health and safety, anti-discrimination and equal opportunity.
Policies and procedures	Work is carried out according to company procedures, regulatory and licensing requirements, legislative requirements, and industrial awards and agreements.
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.
Ice creams and frozen dairy products	Include frozen milks, custards, yoghurts and gelatos.

Unit Sector(s)

Technical.