



Australian Government

Department of Education, Employment and Workplace Relations

FDFST4032A Implement and review the production of gums and jellies

Release: 2

FDFFST4032A Implement and review the production of gums and jellies

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to implement and review the standards and procedures for preparation and manufacture of gums and jellies.
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Application of the Unit

Application of the unit	<p>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 confectionery sector.</p> <p>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.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Not applicable.

Employability Skills Information

Employability skills	This unit contains employability skills.
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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 gums and jellies.	1.1 The statutory compositional requirements for the different types of gums and jellies is established 1.2 The required formulation of gums and jellies 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 gums and jellies 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 and collection points appropriate for food safety, quality and production standards are interpreted or documented 2.4 Procedures to deal with non-conformance in relation to process and the final product are developed 2.5 Cooking and molding procedures are implemented and monitored 2.6 Process control systems are implemented and monitored confectioneries
3. Diagnose, rectify and/or report problem arising from the preparation and manufacture of gums and jellies	3.1 Sensory evaluation and product testing protocols are established to identify defects and maintain organoleptic quality of food 3.2 Identified adjustments to inputs, process & equipment are implemented 3.3 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 4.3 Sensory analysis is conducted and analysed 4.4 Food tests are undertaken and data generated for the product label 4.5 Operating procedures and the process control system are reviewed 4.6 Safe work systems for processing of gums and jellies are reviewed 4.7 Environmental impacts and energy efficiencies are reviewed for processing of gums and jellies

Required Skills and Knowledge

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

Required skills include:

Ability to:

- interpret market specifications for gums and jellies
- plan the production processes related to gums and jellies
- monitor the output of each of the processes used in the preparation and manufacture of gums and jellies
- finish gelatinised products to prevent sticking
- check product against market specifications
- operate equipment and accessories for the preparation and manufacture of gums and jellies
- identify defects during production and for final products

Required knowledge includes:

Knowledge of:

- the formulations, methods of manufacture, methods of forming and packaging of gums and jellies
- the range of gelatinised products including "gummi" and other types of starch moulded products, licorice and Turkish delight, and their formulations
- processes used to gelatinise different confectionery masses and form these masses to maintain the desired product shape
- the role of the major ingredients found in gums and jellies
- the role, properties and use of different gelatinising agents such as gelatine, starches, pectins and agar
- critical factors in the preparation and manufacture of gums and jellies
- the production system for the preparation and manufacture of gums and jellies 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
- potential product defects and their causes, which may arise in the preparation and manufacture of gums and jellies
- the interrelationships between suppliers of products and internal/external customers
- stages of production, CCPs and critical limits
- resource requirements for the preparation and manufacture of gums and jellies
- packaging procedures
- quality and continuous improvement processes
- sensory analysis techniques
- safe systems of work.

Evidence Guide

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	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to manufacture gums and jellies to specifications including: implementing process control procedures and data collection; diagnosing and reporting problems for manufacturing; carrying out sensory evaluation and product testing; and reviewing the production system for food safety and quality and environmental impact.
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"> • 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	<p>The following assessment methods are suggested:</p> <ul style="list-style-type: none"> • Observation of candidate carrying out product development and conducting a range of tests and procedures for gums and jellies • Written and/or oral questioning to assess knowledge and understanding • Completing workplace documentation • Third party reports from experienced practitioner

EVIDENCE GUIDE	
	<ul style="list-style-type: none"> • 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

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>	
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	<p>legislation, regulations, Codes of practice</p> <p>safety data sheets (SDSs)</p> <p>enterprise and process specific occupational health and safety requirements</p>
Gums and jellies	Gums and jellies include all confectionery products that include a gelatinising agent such as gelatine, starches, pectins and agar etc to give a characteristic gelled texture to the product. Can be consumed as is or included as a centre for processes such as chocolate enrobing, moulding or panning.

Unit Sector(s)

Unit sector	Technical
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