



Australian Government

Department of Education, Employment and Workplace Relations

FDFST4050A Identify & implement product safety and quality for processing of fruit, vegetables & other produce

Release: 2

FDFST4050A Identify & implement product safety and quality for processing of fruit, vegetables & other produce

Modification History

April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to identify and implement product safety and quality for processing of fruit, vegetables and other produce.
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Application of the Unit

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 of fruit, vegetables, nuts, herbs and spices and other produce. 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.
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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. Review preparation of fruits, vegetables, nuts, herbs and spices for processing	1.1 Processes for preparing fruits, vegetables, herbs and spices are identified 1.2 The blanching process for fruits, vegetables, nuts, herbs and spices is documented where required 1.3 The process of carrying out pre-treatments for fruits, vegetables, nuts, herbs and spices is documented 1.4 The steps involved in the manufacture of a range of fruit, vegetable, herbs and spices are identified
2. Monitor production of fruit, vegetables, nut, herb and spice product samples for testing	2.1 Processing technique to produce required range of fruit, vegetable, herb and spice product samples are identified 2.2 Permissible additives/preservatives used in the production of fruits, vegetables, nuts, herbs and spices are evaluated for suitability 2.3 Processing stages and processes are monitored according to regulatory, customer and enterprise requirements 2.4 Products are produced in a safe working environment using appropriate hygiene and sanitation techniques
3. Investigate the packaging alternatives for fruits, vegetables, nut, herb and spice products.	3.1 Packaging requirements for fruits, vegetable, herb and spice products are identified and evaluated for suitability 3.2 Packaging of a range of fruit, vegetable, nuts, herb and spice products is monitored according to regulatory, customer and enterprise requirements 3.3 Adjustments to packaging procedures and design are made where required
4. Assess the quality and shelf life of fruit, vegetable, nuts, herb and spice products	4.1 A range of testing techniques are performed to assess the safety and organoleptic qualities of fruit, vegetable, nuts, herb and spice products 4.2 All common hazards at critical control points (CCPs) for the production of products are identified and assessed 4.3 Critical limits are complied with for all steps of production including shelf life and storage
5. Review production processes	5.1 The CCPs and critical limits for product safety are reviewed 5.2 Operating procedures are reviewed for food safety and quality 5.3 The production plan is reviewed for processing of food products 5.4 Environmental impacts and associated costs are reviewed for processing of food products

Required Skills and Knowledge

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

Required skills include:

Ability to:

- investigate the processing characteristics of fruits, vegetables, nuts, herbs and spices
- determine the seasonal availability and demand for fruits, vegetables, nuts, herbs and spices
- implement preparation and processing requirements for fruits, vegetables, nuts, herbs and spices
- implement quality and food safety procedures for processing of fruits, vegetables, nuts, herbs and spices
- arrange transportation of raw and processed fruits, vegetables, nuts, herbs and spices
- determine the procedures and costings for packaging a range of fruit, vegetable, herb and spice products
- implement packaging procedures for fruits, vegetable, nuts, herb and spice products.

Required knowledge includes:

Knowledge of:

- the physiology of fruits, vegetables, nuts, herbs and spices
- the range of available fruits, vegetables, nuts, herbs and spices used in the food industry
- the physiological changes that can occur to fruit, vegetables, nuts, herbs and spices during harvest and post-harvest treatment
- the various methods of storage which assist to prolong the shelf life of fruits, vegetables, herbs and spices
- the physiology of fruits, vegetables, nuts, herbs and spices
- methods of cleaning and storage of fruit, vegetable, nuts, herb and spice products for sale as fresh produce or for further processing
- manufacturing processes for pickled, canned, dried, and concentrated fruit, frozen and canned vegetables, herb and spice products
- processes and inputs for jam and sauce production
- testing procedures for raw materials through to manufactured product
- stages of production, CCPs and critical limits
- packaging procedures
- quality and continuous improvement processes

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	A person who demonstrates competency in this unit must be able to produce samples of fruit, vegetable, herb and spice products and provide information and data for reviewing the production system
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Critical aspects of assessment must include evidence of the ability to use commercial processing techniques to produce samples of fruits, vegetables, herbs and spice products, and to review 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: • Written and/or oral questioning to assess knowledge and understanding • Observation of candidate conducting a range of processes and tests • A report on review of the production system
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

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.

Occupational health and safety requirements	• OHS legislation, regulations and Codes of practice • Safety Data Sheets (SDSs) for hazardous substances • Enterprise specific OHS requirements.
Regulations	• Australian and international standards including: • professional association regulations • industry guidelines and codes of practice • industry regulations • Australian and New Zealand Food Standards Code • ISO Standards • Codex Alimentarius • export requirements • State food safety regulations • International, Australian and State environmental protocols and regulations regarding effluent.
Materials, equipment and systems	Food preparation may include: • peeling • slicing • dicing • coring • blanching • other pre-treatment processes. Fruit, vegetable herb and spice production processes may include: • pickling • puree • canning • drying • freezing • concentration • milling • grinding.

Unit Sector(s)

Unit sector	Technical
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