Australian Government

Department of Education, Employment and Workplace Relations

FDFTEC4003A Control food contamination and spoilage

Revision Number: 2

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Modification History

November 2011: updated to include correct prerequisite.

Unit Descriptor

Unit descriptor	This unit of competency covers the skills and knowledge required to prevent food contamination and spoilage. It includes management of food safety and cleaning and sanitation programs.

Application of the Unit

Application of the unit	This unit has application at a level where a person would be expected to oversee control measures across a production site or facility.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFFS3001A	Monitor the implementation of quality and food safety programs* *FDFFS2001A Implement the food safety program and procedures*

Employability Skills Information

Employability skills	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. Identify legal responsibilities to produce quality, safe food	1.1. Legal and ethical responsibilities to produce safe food are identified 1.2. Legal, company and customer quality standards for products are identified
2. Identify common causes of food poisoning and contamination	2.1. Food-borne pathogens and contamination that can occur in processed food are identified 2.2. Patterns of contamination and spoilage are traced through processing, storage and shelf-life for a given product 2.3. Conditions required for contamination to occur are identified 2.4. Laboratory results used to detect the presence of contamination and/or related conditions are analysed and applied
3. Manage control measures to eliminate and/or minimise the risk of contamination	3.1. Control measures related to receivals, handling and processing, storage and/or transport stages to guarantee food safety in the workplace are identified 3.2. Control measures to prevent food contamination and spoilage are documented and followed
4. Manage cleaning and sanitation regimes	4.1. The main types of cleaners and sanitisers used in the food industry are identified 4.2. Application methods and related materials, labour and equipment requirements are identified 4.3. Cleaning and sanitation methods and regimes are assessed for environmental impact 4.4. Appropriate cleaning and sanitation methods are selected to suit a given product, processing method and risk factors and to ensure minimal impact on the environment 4.5. Inspection and/or test methods are in place to confirm the effectiveness of the cleaning and sanitation program 4.6. Responsibilities for cleaning and sanitation are documented and communicated

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Required skills

Ability to:

- identify the requirements of legislative responsibilities relating to food production, including food composition, specification of safe handling, processing, storage and transportation methods as appropriate, and establishment of related programs, such as cleaning and sanitation, personal hygiene practices, training and food traceability and recall procedures
- identify how legislative requirements have been applied in a production context (this will typically be based on the food safety program (HACCP) for a production process)
- identify related roles and responsibilities for implementing, maintaining and reviewing the food safety program in a production environment
- identify the types of pathogenic bacteria, viruses and chemicals that can occur in food, including the main types of pathogens and contamination that can occur for a given product and production method, as well as the specific strains that can occur
- identify the main types and causes of food spoilage that can occur, including:
  - bacterial growth
  - growth of yeasts and moulds
  - fermentation
  - enzymic reactions
  - physical degradation (oxidation)
- identify the conditions that cause or promote the growth of pathogens and other forms of contamination and food spoilage
- identify typical control measures used to prevent contamination from occurring, including microbiological, chemical and physical types of contamination
- distinguish between measures to control pathogenic growth (critical control measures) and those used to prevent other forms of contamination
- interpret test results and apply this information in a production context
- identify the types of contamination that can occur and the controls in place to prevent or minimise the likelihood of contamination occurring (where a food safety plan has been developed, compare the outcomes of this process with the provisions of the food safety plan)
- review workplace information to ensure that critical control measures and procedures are documented in a form appropriate to meet company and legal requirements and that quality control measures and procedures are documented to meet company and customer requirements (documentation includes action to be followed in the event of an incident or emergency and should be reflected in food safety plans and operating procedures)

REQUIRED SKILLS AND KNOWLEDGE

- identify the cleaning and sanitation requirements/standards appropriate for a food processing environment
- identify the types of cleaners, sanitisers and combined cleaning/sanitation agents used in the food industry and related application methods
- evaluate the appropriateness of available methods to a given production process/product type
- develop and/or review a cleaning regime suited to a given production process, including the nature, frequency and methods of cleaning and sanitation required, such as removal of residues as appropriate, inspection and/or test methods to confirm effectiveness and allocation of roles and responsibilities (the cleaning regime should balance the need to ensure effective cleaning and sanitation at the same time as minimising the disruption to production)
- identify the possible consequences of failing to follow the cleaning regime
- develop and/or review procedures to describe the methods, frequency, recording, inspection and test requirements related to implementation of cleaning and sanitation
- analyse and interpret test results relating to cleaning and sanitation
- for a given type of microbacterial and/or chemical contamination, identify likely causes, relevant tests and review of the effectiveness of existing controls, including cleaning and sanitation measures
- use communication skills to interpret and complete work information to support operations of work team or area
- demonstrate and support cooperative work practices within a culturally diverse workforce

Required knowledge

Knowledge of:

- the types of pathogenic bacteria, viruses and chemicals that can occur in food
- the main types of pathogens and contamination that can occur
- the main types and causes of food spoilage that can occur, including:
  - bacterial growth
  - growth of yeasts and moulds
  - fermentation
  - enzymic reactions
  - physical degradation (oxidation)
- the conditions that cause or promote the growth of pathogens and other forms of contamination and food spoilage
- criteria for evaluation to take account of the effectiveness of the method in controlling contamination risk, equipment requirements, cost and other criteria as identified by the workplace.
- issues of compatibility of cleaning agents with materials used in equipment/instrument fabrication

REQUIRED SKILLS AND KNOWLEDGE

- the legal responsibilities to maintain food production facilities in a clean and sanitary condition, the difference between a surface that appears clean and one that is microbiologically described as clean, and use of terms, such as sterile and commercially sterile
- laboratory procedures used to avoid erroneous results, including practices such as use of negative controls and the purpose of false positives/false negatives
- common terms,such as:
  - plate count
  - culture
  - colony
  - bacteriophage
  - spores
  - yeasts and moulds
  - water activity

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	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of ability to: • identify legal, company and quality standards for food products • identify common causes of contamination and poisoning, and techniques used to verify status • identify and manage control measures used to address risks • manage cleaning procedures to ensure workplace standards meet food safety requirements.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: • food safety plan and related information, including operating procedures, cleaning and sanitation regimes/plans • laboratory test results • a given production process and product as the basis for tracing contamination/spoilage and identifying control measures • cleaning and sanitation methods, equipment and procedures .
Method of assessment	This unit should be assessed together with core units and other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

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.	
Food-borne pathogens and contamination	Food-borne pathogens and contamination includes: • those listed in the World Health Organisation(WHO) table on 'Food-borne pathogens and chemicals of public health importance'. This is reproduced in a number of food safety-related documents, including 'Food Safety Standards Costs and Benefits' ANZFA, May 1999
Food-related legislation	Food-related legislation relevant to this unit includes: • relevant state, territory and federal food safety legislation • the Food Standards Code
Identification	Identification can be based on active ingredients and includes but is not limited to: • alkaline and acid-based detergents • steam/hot water-based methods of sanitation • bleach-based sanitisers • quaternary ammonium compounds (QUATs) • alcohol-based sanitisers • use of UV light, gamma radiation and combined cleaners/sanitisers

Unit Sector(s)

Unit sector	Technical

Competency field

Competency field	

Co-requisite units

Co-requisite units		