Australian Government

Department of Education, Employment and Workplace Relations

FDFLAB2008A Analyse laboratory data

Release: 2

FDFLAB2008A Analyse laboratory data

Modification History

This unit supersedes and is equivalent to FDFLABALDA Analyse laboratory data.
April 2012: Minor typographical corrections.

Unit Descriptor

Unit descriptor	This unit covers the skills and knowledge required to perform routine laboratory calculations, analyse trends and report results.

Application of the Unit

Application of the unit	This unit has application in a wine operations laboratory environment. It typically targets the worker responsible for analysing and interpreting laboratory data.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		
	FDFLAB2006A	Record laboratory data

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. Perform laboratory calculations	1.1 Raw data is confirmed within standard or normal range of results
	1.2 Arithmetic processes involving decimals, fractions, ratios, proportions and concentrations are used to perform laboratory calculations
	1.3 Scientific quantities are calculated using given formulae and data
	1.4 Calculated quantities are verified by using estimation techniques
	1.5 Data is presented using the relevant corrections, factors, units, and number of significant figures
2. Analyse laboratory data	2.1 Data is analysed to determine if the product and/or process is in control
	2.2 Trends and anomalies in data are identified and reported
	2.3 Possible causes for variation or non-compliance are identified and/or investigated
	2.4 Corrective action is taken to maintain process and/or product within control according to workplace procedures
3. Report results	3.1 Charts, tables and graphs are used to present results in the correct format
	3.2 Correct data entry is verified
	3.3 Reports are prepared in the required format
	3.4 Results are communicated within the specified time
	3.5 Workplace confidentiality standards are maintained

Required Skills and Knowledge

ELEMENT	PERFORMANCE CRITERIA
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.
• Perform laboratory calculations	• Raw data is confirmed within standard or normal range of results • Arithmetic processes involving decimals, fractions, ratios, proportions and concentrations are used to perform laboratory calculations • Scientific quantities are calculated using given formulae and data • Calculated quantities are verified by using estimation techniques • Data is presented using the relevant corrections, factors, units, and number of significant figures
• Analyse laboratory data	• Data is analysed to determine if the product and/or process is in control • Trends and anomalies in data are identified and reported • Possible causes for variation or non-compliance are identified and/or investigated • Corrective action is taken to maintain process and/or product within control according to workplace procedures
• Report results	• Charts, tables and graphs are used to present results in the correct format • Correct data entry is verified • Reports are prepared in the required format • Results are communicated within the specified time • Workplace confidentiality standards are maintained

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: • conduct calculations to analyse scientific data • document and record analytical data according to workplace standards • identify trends, anomalies and variations • identify causes for variations.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: • personal protective clothing and equipment as required • work procedures, including advice on company practices, safe work practices, food safety, quality and environmental requirements • instructions, information, specifications and schedules as required • equipment, services and corresponding information as required • products and materials as required • internal and external customers and suppliers as required • cleaning procedures, materials and equipment as required • documentation and recording requirements and procedures.
Method of assessment	This unit should be assessed together with other units of competency relevant to the function or work role.
Guidance information for assessment	To ensure consistency in one's performance, competence 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

EVIDENCE GUIDE	
	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.	
Policies and procedures	Work is carried out in accordance with workplace procedures, licensing requirements and legislative requirements
Workplace information	Workplace information may include: • laboratory data • Standard Operating Procedures (SOPs) • specifications • standards • certificates of compliance • quality assurance records • scientific articles or publications • reference texts • product information and purchase details (e.g. supplier catalogues and handbooks) • calibration records • maintenance or service records • production schedules • instructions • work notes • Material Safety Data Sheets (MSDS) • manufacturer instructions
Data	Laboratory data may include: • the results of inspections, tests, quality or safety audits, trials, product or process non-compliance, materials compliance validation, calibration or maintenance schedules

RANGE STATEMENT	
	Data may be presented in the form of: • graphs, histograms, bar charts, pie charts, control charts and tables Data may be recorded: • manually on worksheets • through the use of computer-based systems and entered into spreadsheets or databases
Calculations	Calculations may be performed: • manually or with a calculator or computer software
Arithmetic processes	Arithmetic processes may include: • calculations involving percentages, ratios, proportion, factors, tolerances, areas, volumes, weights, concentrations, cell counts and process variables
Record verification	Verification of records may be achieved by: • consulting standards, specifications, analytical tolerances, document version control, signatories and dates
Reports	Reports will involve: • verification of inspection and test data against specifications before presenting results to supervisor using standard laboratory forms, worksheets, spreadsheets and databases
Information systems	Information systems may be: • print or screen based

Unit Sector(s)

Unit sector	Wine operations

Custom Content Section

Not applicable.