

Title	Calibrate and maintain laboratory test equipment in a primary products food processing operation		
Level	4	Credits	5

Purpose	<p>This unit standard is for experienced people who work in a laboratory, in a primary products food processing operation.</p> <p>People credited with this unit standard are able to: demonstrate knowledge of the principles of operation for laboratory test equipment; prepare laboratory test equipment items for calibration; perform calibrations on laboratory test equipment; record and document laboratory test results; and maintain laboratory test equipment, in a primary products food processing operation.</p>
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Classification	Primary Products Food Processing > Primary Products Food Processing - Operational Skills
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Available grade	Achieved
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Explanatory notes

- 1 Legislation and references relevant to this unit standard includes but is not limited to – Hazardous Substances and New Organisms Act 1996, Health and Safety in Employment Act 1992, Health and Safety in Employment Regulations 1995, Resource Management Act 1991, ISO/IEC 17025:2005/Cor1:2006 *General requirements for the competence of testing and calibration laboratories*, NZS/ISO 15189:2003 *Medical Laboratories – Particular requirements for quality and competence*, available at <http://www.standards.co.nz>.
 - 2 Definitions
Organisational requirements – instructions to staff on policies and procedures which are documented in memo, electronic or manual format and are available in the workplace.
Primary products food processing operation – covers a meat processing, dairy processing, seafood or baking yeasts manufacturing operation.
 - 3 *Laboratory test equipment* may include but is not limited to – autotitrators, Karl Fischer titrators, Kjeldahl protein instruments, spectrophotometers; evidence is required of two pieces of equipment.
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Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of the principles of operation for laboratory test equipment in a primary products food processing operation.

Evidence requirements

- 1.1 The principles of operation for laboratory test equipment are described in terms of the technology used.
- 1.2 Maintenance procedures are described in terms of manufacturer's specifications and organisational requirements.
- 1.3 Calibration procedures are described in terms of manufacturer's specifications and organisational requirements.
- 1.4 Quality control checks are identified and described in terms of types and causes of typical errors.

Outcome 2

Prepare laboratory test equipment items for calibration in a primary products food processing operation.

Evidence requirements

- 2.1 Authorised calibration procedure is selected in accordance with organisational requirements.
- 2.2 Hazards are identified and the appropriate personal protective equipment, safety equipment and procedures are used in accordance with organisational requirements.
- 2.3 Measuring equipment is confirmed as meeting the laboratory's specification requirements and complying with the calibration procedure.
- 2.4 Specified reference standards and measuring equipment are assembled, set up and adjusted or calibrated as required in accordance with organisational requirements.
- 2.5 Potential sources of measurement error are identified and minimised in accordance with organisational requirements.

Outcome 3

Perform calibrations on laboratory test equipment in a primary products food processing operation.

Evidence requirements

- 3.1 Individual tests are performed within acceptable variance to ensure repeatability of measurement in accordance with organisational requirements.
- 3.2 Readings are confirmed as being the result of a valid measurement and data is recorded in accordance with organisational requirements.
- 3.3 Instruments under calibration are adjusted to bring readings within specification and data is recorded in accordance with organisational requirements.
- 3.4 Resulting test data is analysed to detect trends or inconsistencies that would significantly affect the accuracy or validity of the test results in accordance with organisational requirements.

Outcome 4

Record and document laboratory test results in a primary products food processing operation.

Evidence requirements

- 4.1 Compliance or non-compliance with requirements of the test and/or specifications are reported and documented in accordance with organisational requirements.
- 4.2 Results of each calibration are recorded in accordance with organisational requirements.
- 4.3 Calibration labels, equipment stickers, quality control tags and seals are attached where required in accordance with organisational requirements.

Outcome 5

Maintain laboratory test equipment in a primary products food processing operation.

Evidence requirements

- 5.1 Maintenance procedures and records are identified in accordance with organisational requirements.
- 5.2 Equipment, facilities, reference standards and stocks of consumables are maintained in accordance with organisational requirements.
- 5.3 Maintenance is planned for and evaluated in accordance with organisational requirements.
- 5.4 The need for maintenance for faulty or damaged equipment is identified, documented and reported in accordance with organisational requirements.

Replacement information	This unit standard replaced unit standard 21988.
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Planned review date	31 December 2020
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Last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	17 September 2015	N/A

Consent and Moderation Requirements (CMR) reference	0033
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Please note

Providers must be granted consent to assess against standards (accredited) by NZQA, before they can report credits from assessment against unit standards or deliver courses of study leading to that assessment.

Industry Training Organisations must be granted consent to assess against standards by NZQA before they can register credits from assessment against unit standards.

Providers and Industry Training Organisations, which have been granted consent and which are assessing against unit standards must engage with the moderation system that applies to those standards.

Requirements for consent to assess and an outline of the moderation system that applies to this standard are outlined in the Consent and Moderation Requirements (CMRs). The CMR also includes useful information about special requirements for organisations wishing to develop education and training programmes, such as minimum qualifications for tutors and assessors, and special resource requirements.

Comments on this unit standard

Please contact the Primary Industry Training Organisation standards@primaryito.ac.nz if you wish to suggest changes to the content of this unit standard.