

Title	Describe and use handheld laboratory instruments in a primary products food processing operation		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to: describe the principles of operation of handheld laboratory instruments; calibrate handheld laboratory instruments and apply correction factors; use handheld laboratory instruments to carry out tests; and record laboratory test results, in a primary products food processing operation.
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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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Guidance Information

- 1 Legislation and standards relevant to this unit standard include but are not limited to:
 - Hazardous Substances and New Organisms Act 1996;
 - Health and Safety at Work Act 2015;
 - Health and Safety in Employment Regulations 1995;
 - Resource Management Act 1991;
 - NZS ISO/IEC 17025:2018 *General requirements for the competence of testing and calibration laboratories*, available at <http://www.standards.co.nz>; and any subsequent amendments.

- 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, dairy, seafood, fruit and vegetable and honey processing, food and beverage manufacturing, and other related industries.

- 3 All evidence presented in this unit standard must be in accordance with company requirements.

Outcomes and performance criteria

Outcome 1

Describe the principles of handheld laboratory instruments in a primary products food processing operation.

Performance criteria

- 1.1 Describe the function and purpose of each instrument in terms of the technology used.
- 1.2 Describe maintenance procedures in terms of manufacturer's specifications.
- 1.3 Describe calibration procedures in terms of manufacturer's specifications.
- 1.4 Describe quality control checks in terms of types and causes of typical errors.

Outcome 2

Calibrate handheld laboratory instruments and apply correction factors in a primary products food processing operation.

Performance criteria

- 2.1 Zero and calibrate instruments and determine correction factors in accordance with manufacturer's specifications.
- 2.2 Apply correction factors to test results.

Outcome 3

Use handheld laboratory instruments to carry out tests in a primary products food processing operation.

Range handheld laboratory instruments may include but are not limited to – probe, refractometer, thermometer, thermocouple.
evidence is required for one probe and one other instrument.

Performance criteria

- 3.1 Connect instruments and select settings in accordance with manufacturer's specifications.
- 3.2 Take measurements.
- 3.3 Operate instruments using personal protective equipment and safety procedures.
- 3.4 Maintain instruments in accordance with manufacturer's specifications.

Outcome 4

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

Performance criteria

- 4.1 Record laboratory test results.

4.2 Review results and report any non-conformance.

Replacement information	This unit standard replaced unit standard 21990.
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Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	17 September 2015	31 December 2021
Review	2	24 October 2019	31 December 2024
Reinstatement	3	24 March 2022	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>.

Comments on this unit standard

Please contact Hanga-Aro-Rau Manufacturing, Engineering, and Logistics Workforce Development Council qualifications@hangaarorau.nz if you wish to suggest changes to the content of this unit standard.