

Title	Perform microbiological testing of starter cultures in a laboratory in a primary products food processing operation		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to: describe microbiological testing of starter cultures; perform microbiological testing of starter cultures; and interpret and report results of microbiological testing of starter cultures, used in the manufacture of food products 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 references 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;
 - 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 Evidence for this unit standard must be presented in accordance with organisational requirements.

Outcomes and performance criteria

Outcome 1

Describe microbiological testing of starter cultures used in the manufacture of food products in a primary products food processing operation.

Range Starter culture tests may include but are not limited to – bacteriophage testing, starter activity, starter ratios, starter inhibition test; evidence of three tests is required.

Performance criteria

1.1 Describe the principles of the test in terms of technology, reactions and the process involved.

1.2 Describe critical stages of the test in terms of the process used at each stage.

1.3 Describe variables of the test in terms of the process of eliminating variables.

Range variables include but are not limited to – equipment, apparatus, reagents, sample, technique, contamination, environment.

1.4 Describe quality assurance of the test.

Range quality assurance includes but is not limited to – controls, blanks, repeatability, duplicates, reproducibility, decimal dilutions.

Outcome 2

Perform microbiological testing of starter cultures used in the manufacture of food products in a primary products food processing operation.

Performance criteria

2.1 Prepare samples and equipment.

2.2 Perform tests in accordance with agreed processes and procedures.

2.3 Perform tests in a safe and aseptic manner.

2.4 Confirm tests.

2.5 Clean and store test equipment, and dispose of samples and waste.

Outcome 3

Interpret and report results of microbiological testing used in the manufacture of food products in a primary products food processing operation.

Performance criteria

- 3.1 Interpret, confirm and report microbiological testing results.
- 3.2 Identify any microbiological testing non-conformance and take corrective action.
- 3.3 Analyse abnormal test situations to identify the nature of the problem and reach a valid solution.
- 3.4 Analyse abnormal test results to identify the nature of the problem and reach a valid solution.

Replacement information	This unit standard replaced unit standard 21999.
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\	31 December 2026
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Last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	17 September 2015	31 December 2024
Review	2	24 March 2022	N/A

Consent and Moderation Requirements (CMR) reference	0022
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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 the 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.