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| Title | Describe and carry out culture preparation in a laboratory in a primary products food processing operation | | |
| Level | 4 | Credits | 10 |

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| Purpose | People credited with this unit standard are able to: describe culture media preparation for microbiological testing of food products; describe culture maintenance for microbiological testing of food products; prepare and perform culture media for microbiological testing of food products; and record quality control information for culture maintenance on 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 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;
 - ISO/IEC 17025:2018 *General requirements for the competence of testing and calibration laboratories*, and any subsequent amendments. Available at <http://www.standards.co.nz>.
- 2 Definitions

Cultures – a single species bacterial isolate that is grown in the laboratory for the specific purpose of media validation, test verification, water toxicity and detergent residue testing.

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 presented in accordance with organisational requirements.

Outcomes and performance criteria

Outcome 1

Describe culture media preparation for microbiological testing of food products in a primary products food processing operation.

Performance criteria

1.1 Describe culture media components for microbiological testing in terms of their function in the media.

Range evidence of three media components for microbiological testing used in the learner's workplace is required.

1.2 Describe effect of the environment on media for microbiological testing in terms of temperature, humidity, light, pH and contamination.

Outcome 2

Describe culture maintenance for microbiological testing of food products in a primary products food processing operation.

Performance criteria

2.1 Describe the requirement for maintenance of cultures for microbiological testing in terms of possible consequences of failing to maintain cultures correctly.

2.2 Describe maintenance of microbiological testing cultures in terms of the techniques used.

Range evidence of two techniques is required.

Outcome 3

Prepare and perform culture media for microbiological testing of food products in a primary products food processing operation.

Performance criteria

3.1 Prepare microbiological testing culture media.

3.2 Perform quality checks on culture media for microbiological testing.

3.3 Store microbiological testing culture media.

3.4 Check microbiological testing culture media for deterioration and expiry date and discard any dated or deteriorated media.

3.5 Maintain culture for microbiological testing to ensure viable, stable and pure stock.

- 3.6 Perform any sub-culturing in a safe and aseptic manner.
- 3.7 Clean and store equipment and dispose of waste samples.

Outcome 4

Record quality control information for culture maintenance on food products in a primary products food processing operation.

Performance criteria

- 4.1 Record quality control information results for culture maintenance.
- 4.2 Identify any culture maintenance non-conformance and take corrective action.

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| Replacement information | This unit standard replaced unit standard 21992 and unit standard 21994. |
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| Planned review date | 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 |

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| 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.