

Title	Describe and perform sensory evaluation methods in a laboratory in a primary products food processing operation		
Level	4	Credits	10

Purpose	People credited with this unit standard are able to: describe the main components of sensory evaluation used in a laboratory; describe the application of sensory methodology; describe the factors that influence sensory measurement; select a sensory evaluation method, describe difference, descriptive and consumer sensory evaluation methodologies; describe the selection, training and monitoring of a sensory evaluation panel; describe sensory evaluation methodologies in quality control; apply statistical techniques for evaluation of sensory data; and perform sensory evaluation and evaluate sensory panel 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

- 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*, available at <http://www.standards.co.nz>; and any subsequent amendments.
- 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.
- All evidence presented in this unit standard must be in accordance with organisational requirements.

Outcomes and performance criteria

Outcome 1

Describe the main components of sensory evaluation used in a laboratory in a primary products food processing operation.

Performance criteria

1.1 Describe the use of each sense to determine product quality in terms of specific food products.

Range senses may include but are not limited to – sight, smell, sound, touch, taste;
evidence of two different food products is required.

1.2 Describe taste and flavour in terms of their differences.

1.3 Describe the sensory threshold in terms of its types.

Range types include but are not limited to – absolute or detection, recognition, differential;
evidence of two is required.

1.4 Describe the basic tastes under trial conditions.

Range tastes include but are not limited to – sweet, sour, salty, and bitter
evidence of two is required.

1.5 Describe the critical factors influencing sensory measurements in terms of their differences.

Range critical factors include but are not limited to – physiological, psychological, test environment, sample preparation, evaluators;
evidence of three is required.

Outcome 2

Describe the application of sensory methodology in a primary products food processing operation.

Performance criteria

2.1 Describe the main groups of sensory tests in terms of their differences.

Range groups of sensory tests include but are not limited to – descriptive, acceptance or consumer, difference.

2.2 Describe the tests that a trained panellist should and should not carry out in terms of their types.

Range tests include but are not limited to – difference tests, ranking, descriptive analysis, acceptance tests
evidence of two is required.

2.3 Describe the purpose of attribute grading in terms of the food products tested.

Outcome 3

Describe the factors that influence sensory measurement in a primary products food processing operation.

Performance criteria

3.1 Describe the influence of the testing environment on sensory measurement.

Range influences include but are not limited to – optimum settings, light, air source, colour, temperature, humidity, personal comfort;
evidence of four is required.

3.2 Describe the influence of sample preparation and presentation on sensory measurement.

Range influences include but are not limited to – uniformity, temperature, size, shape, random order, blind codes, rinsing;
evidence of four is required.

3.3 Describe the influence of biases and errors on sensory measurement.

Range influences include but are not limited to – expectation error, stimulus error, logical error, suggestion, contrast effect, positional effect;
evidence of four is required.

Outcome 4

Select a sensory evaluation method, describe difference, descriptive and consumer sensory evaluation methodologies in a primary products food processing operation.

Performance criteria

4.1 Select a sensory evaluation method.

Range selection may include but is not limited to – customer complaint, product development, loss of market share, quality control;
evidence of two is required.

4.2 Describe different test methodologies in terms of their function.

Range methodologies may include but are not limited to – pair comparisons, triangle, duo-trio, difference from control; evidence of two is required.

4.3 Describe descriptive sensory evaluation methods in terms of their function.

Range methods may include but are not limited to – flavour profile method, texture profile method, Quantitative Descriptive Analysis (QDA), descriptive profiling
evidence of two is required.

4.4 Describe consumer evaluation versus trained sensory panel evaluation method in terms of the advantages and disadvantages.

Range methods include but are not limited to – preference, acceptance, central location, in-home placement, focus groups.

Outcome 5

Describe the selection, training and monitoring of a sensory evaluation panel in a primary products food processing operation.

Performance criteria

5.1 Describe the factors influencing selection of sensory evaluation panellists in terms of their importance to the selection process.

Range factors may include but are not limited to – availability, group interaction, taste ranking, triangle test, odour recognition; evidence of two is required.

5.2 Describe procedures for training sensory evaluation panellists.

Range training includes but is not limited to – reference scales, reference standards, product attributes.

5.3 Describe procedures for monitoring the performance of sensory panels.

Range monitoring includes but is not limited to – individual panellist's results, sensory panel performance.

Outcome 6

Describe sensory evaluation methodologies in quality control in a primary products food processing operation.

Performance criteria

6.1 Describe sensory evaluation methodologies in terms of their function.

Range evidence of two is required.

Outcome 7

Apply statistical techniques for evaluation of sensory data in a primary products food processing operation.

Performance criteria

7.1 Calculate for a given set of sensory data, the mean, median, standard deviation and range.

7.2 Interpret the statistical results from the calculation.

Range interpretation includes but is not limited to – validity, implication of variability, implication for training.

Outcome 8

Perform sensory evaluation and evaluate sensory panel results in a primary products food processing operation.

Performance criteria

8.1 Perform sensory evaluations for flavour as an individual sensory panellist.

Range evidence of six samples of flavours is required.

8.2 Evaluate sensory panel results statistically in accordance with a given sensory profile.

Range evaluation includes but is not limited to – mean, median, standard deviation, range.

Replacement information	This unit standard replaced unit standard 4314 and unit standard 8967.
Planned review date	31 December 2026

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

0033

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.