

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

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 main components of sensory evaluation used in a laboratory; the correct application of sensory methodology; the factors that influence sensory measurement; difference, descriptive and consumer sensory evaluation methodologies; the selection, training and monitoring of a sensory evaluation panel; 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.</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.

Outcomes and evidence requirements

Outcome 1

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

Evidence requirements

- 1.1 The use of each sense to determine product quality is identified and described in terms of specific food products.
- Range senses include but are not limited to – sight, smell, sound, touch, taste; evidence is required of two different food products.
- 1.2 Taste and flavour are described in terms of their differences.
- 1.3 The sensory threshold is described in terms of its types.
- Range types include but are not limited to – absolute or detection, recognition.
- 1.4 The basic tastes are identified under trial conditions.
- Range tastes include but are not limited to – sweet, sour, salty, and bitter.
- 1.5 The critical factors influencing sensory measurements are identified and described in terms of their differences.
- Range critical factors include but are not limited to – physiological, psychological, test environment, sample preparation, evaluators.

Outcome 2

Demonstrate knowledge of the correct application of sensory methodology in a primary products food processing operation.

Evidence requirements

- 2.1 The main groups of sensory tests are identified and described in terms of their differences.
- Range groups of sensory tests include but are not limited to – descriptive, acceptance or consumer, difference.
- 2.2 The tests that a trained panellist should and should not carry out are identified and described in terms of their types.
- Range tests include but are not limited to – difference tests, ranking, descriptive analysis, acceptance tests.

- 2.3 The purpose of attribute grading is described in terms of the food products tested.

Outcome 3

Demonstrate knowledge of the factors that influence sensory measurement in a primary products food processing operation.

Evidence requirements

- 3.1 The influence of the testing environment on sensory measurement is explained.
- Range influences include but are not limited to – optimum settings, light, air source, colour, temperature, humidity, personal comfort.
- 3.2 The influence of sample preparation and presentation on sensory measurement is explained.
- Range influences include but are not limited to – uniformity, temperature, size, shape, random order, blind codes, rinsing.
- 3.3 The influence of biases and errors on sensory measurement is explained.
- Range influences include but are not limited to – expectation error, stimulus error, logical error, suggestion, contrast effect, positional effect.

Outcome 4

Demonstrate knowledge of difference, descriptive and consumer sensory evaluation methodologies in a primary products food processing operation.

Evidence requirements

- 4.1 A sensory evaluation method is selected in accordance with organisational requirements.
- Range selection may include but is not limited to – customer complaint, product development, loss of market share, quality control; evidence is required of three factors.
- 4.2 Difference tests methodologies are described in terms of their function.
- Range methodologies include but are not limited to – pair comparisons, triangle, duo-trio, difference from control.
- 4.3 Descriptive sensory evaluation methods are explained in terms of their function.
- Range methods include but are not limited to – flavour profile method, texture profile method, Quantitative Descriptive Analysis (QDA), descriptive profiling.

4.4 Consumer evaluation versus trained sensory panel evaluation method is described in terms of the advantages and disadvantages.

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

Outcome 5

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

Evidence requirements

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

Range factors include but are not limited to – availability, group interaction, taste ranking, triangle test, odour recognition.

5.2 Procedures for training sensory evaluation panellists are described in terms of organisational requirements.

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

5.3 Procedures for monitoring the performance of sensory panels is described in terms of organisational requirements.

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

Outcome 6

Demonstrate knowledge of sensory evaluation methodologies in quality control in a primary products food processing operation.

Evidence requirements

6.1 Sensory quality control methods are explained in terms of their function.

Range evidence is required of two quality control methods used in the candidate's workplace.

Outcome 7

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

Evidence requirements

- 7.1 The mean, median, standard deviation and range are calculated for a given set of data.
- 7.2 The statistical results from the calculation are interpreted in accordance with organisational requirements.
 - 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.

Evidence requirements

- 8.1 Flavour evaluations are performed as an individual sensory panellist in accordance with organisational requirements.
 - Range evidence is required of six samples.
- 8.2 Sensory panel results are evaluated 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.
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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.