

<b>Title</b>	<b>Describe the manufacture of cultured dairy products and dairy desserts in a dairy processing operation</b>		
<b>Level</b>	<b>5</b>	<b>Credits</b>	<b>15</b>

<b>Purpose</b>	People credited with this unit standard are able to describe: the composition and properties of milk; the engineering principles used for the cultured dairy products and dairy desserts process; and the product properties and process control points for cultured dairy products and dairy desserts, in a dairy processing operation.
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<b>Classification</b>	Dairy Processing > Milk Products
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<b>Available grade</b>	Achieved
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### Guidance Information

- 1 Legislation and regulations relevant to this unit standard include but are not limited to:
  - Animal Products Act 1999;
  - Health and Safety at Work Act 2015;
  - Animal Products (Dairy) Regulations 2005; and any subsequent amendments.
- 2 All evidence presented in this unit standard must be in accordance with organisational requirements.
- 3 Definition  
*Organisational requirements* – instructions to staff on policies and procedures which are documented in memo, electronic or manual format and are available in the workplace. These include but are not limited to site-specific and company standard operating procedures, food safety and quality management requirements.

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### Outcomes and performance criteria

#### Outcome 1

Describe the composition and properties of milk in a dairy processing operation.

**Performance criteria**

- 1.1 Describe the composition of cow's milk in terms of the composition and factors that affect composition.
- Range composition includes but is not limited to – fat, protein, lactose, minerals, vitamins, water;  
factors include but are not limited to – genetic, physiological and/or seasonal, environmental.
- 1.2 Describe the properties of the major solid components in milk in terms of their influences on the cultured dairy products and dairy desserts process and on the product.
- Range major solid components include but are not limited to – fat, protein, lactose, minerals.
- 1.3 Describe deteriorative mechanisms in milk in terms of their effect on product quality.
- Range deteriorative mechanisms include but are not limited to – micro loading, spore formers, enzymes, age of milk (titratable acidity).

**Outcome 2**

Describe the engineering principles used for the cultured dairy products and dairy desserts process in a dairy processing operation.

**Performance criteria**

- 2.1 Describe a cultured dairy products and dairy desserts process in terms of the engineering principles.
- Range engineering principles include but are not limited to – batch processing, ripening, transferring, heat treatment, fruit dosing, essence dosing.
- 2.2 Describe a cultured dairy products and dairy dessert packaging process in terms of the engineering principles.
- Range engineering principles include but are not limited to – piston filters, rotary valves, fill, seal.

**Outcome 3**

Describe the product properties and process control points for cultured dairy products and dairy desserts in a dairy processing operation.

**Performance criteria**

3.1 Describe control measures used in the cultured dairy products and dairy desserts process in terms of reducing microorganisms.

Range microorganisms may include but are not limited to – thermophiles, coliforms, yeasts, moulds, aerobic plate count (APC), salmonella, listeria, spore former bacteria;  
evidence of four types of microorganism is required.

3.2 Describe control strategies in terms of the main unit operations of the cultured dairy products and dairy desserts process.

Range main unit operations include but are not limited to – milk treatment, storage, preheating and homogenisation, ripening and transfer, reject valve.

3.3 Describe control strategies in terms of product quality parameters.

Range quality parameters may include but are not limited to – acidity, heat treatment, set times, inoculation times, processing set points, ingredient addition;  
evidence of four common quality parameters for one selected product is required.

3.4 Describe yoghurt thickness in terms of the effect of starch and protein on the finished product.

3.5 Describe probiotic culture in terms of the effect on the finished product.

3.6 Describe direct acidification in terms of the effect on the finished product.

3.7 Describe cottage cheese manufacture in terms of the product's properties and required process control points.

<b>Planned review date</b>	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	18 June 2015	31 December 2024
Review	2	28 April 2022	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0022
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

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**Comments on this unit standard**

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