

<b>Title</b>	<b>Batch ferment liquid food products using automated production equipment</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	This unit standard is for people who are currently working, or who intend to work, in jobs which require the use of automated production equipment to batch ferment liquid food products. People credited with this unit standard are able to: use safe working practices; prepare for batch fermentation of liquid food products; and maintain batch fermentation of liquid food products.
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<b>Classification</b>	Food and Related Products Processing > Food Production - Beverages
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<b>Available grade</b>	Achieved
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**Guidance Information**

- 1 Legislation relevant to this unit standard includes but is not limited to the: Health and Safety in Employment Act 1992; Health and Safety in Employment Regulations 1995; Food Act 1981; Food Hygiene Regulations 1974; Food (Safety) Regulations 2002; Resource Management Act 1991; and their associated regulations and subsequent amendments.
- 2 *Fermentation of vinegar* does not include secondary fermentation using acetobacter bacteria.
- 3 **Definitions**  
*Organisational procedures* refer to documents that include: worksite rules, codes, and practices; equipment operating instructions; production specifications; documented quality management systems; and health and safety requirements.  
*Equipment* refers to automated production equipment such as: cooling system, heat exchanger, steam, tanks, lines, pipework, valves, hoses, fittings.  
*Liquid food products* refers to items such as: vinegar, beer, apple juice, wine.  
*Starter culture* refers to yeast or enzymes.  
*PPE* refers to personal protective equipment and may include but is not limited to: protective clothing, gloves, safety glasses/headwear/footwear, hearing protection, safety devices.
- 4 Competence is to be demonstrated on three occasions of batch fermenting liquid food products using automated production equipment.

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## Outcomes and performance criteria

### Outcome 1

Use safe working practices.

#### Performance criteria

- 1.1 PPE is used in accordance with organisational procedures.
- 1.2 Work environment is clean and free from hazards in accordance with organisational procedures.
- Range hazards to – personnel, product, plant.
- 1.3 Documentation is referred to and/or completed in accordance with organisational procedures.

### Outcome 2

Prepare for batch fermentation of liquid food products.

#### Performance criteria

- 2.1 Preparation for batch fermentation is in accordance with organisational procedures.
- 2.2 Equipment for batch fermentation is available, and configuration is correct for scheduled product in accordance with organisational procedures.
- 2.3 Equipment in contact with liquid food product is sterile in accordance with production specifications.
- 2.4 Water for batch fermentation is in correct condition and at correct temperature in accordance with production specifications.
- Range condition may include but is not limited to – filtered, deionised, treated.
- 2.5 Correct, authorised starter culture is available at correct temperature and specific gravity for fermentation in accordance with production specifications.
- 2.6 Correct raw materials, at correct specification, are available in sufficient quantity for scheduled and anticipated production.
- Range raw materials may include but are not limited to – malt extract, glucose syrup, fruit juice; specifications may include but are not limited to – temperature, pH, brix, specific gravity, sugar, protein.

### Outcome 3

Maintain batch fermentation of liquid food products.

#### Performance criteria

- 3.1 Maintenance of batch fermentation is in accordance with organisational procedures.
- 3.2 Correct temperature of fermentation vessel is maintained in accordance with production specifications.
- 3.3 Fermented liquid food product meets product specifications, and is available for production in accordance with organisational procedures.
- Range specifications may include but are not limited to – specific gravity, brix, alcohol content, pH.
- 3.4 Fermented product is in correct location for downstream production operations in accordance with organisational procedures.
- 3.5 Variations in specified technical performance of equipment are identified, rectified and/or reported in accordance with organisational procedures.
- Range variations may include but are not limited to – quality, quantity, safety.
- 3.6 Product wastage due to maintaining batch fermentation is minimised, and opportunities to rework non-conforming product are maximised in accordance with organisational procedures.
- 3.7 Production downtime due to maintaining batch fermentation is minimised in accordance with organisational procedures.

**This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.**

#### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 August 1996	31 December 2022
Revision	2	15 May 1998	31 December 2022
Review	3	19 August 2004	31 December 2022
Review	4	28 January 2021	31 December 2022

<b>Consent and Moderation Requirements (CMR) reference</b>	0111
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.