

Title	Carry out fermentation operations in a commercial wine cellar operation		
Level	4	Credits	10

Purpose	<p>This unit standard is for people who carry out and control wine production processes in the winemaking industry.</p> <p>People credited with this unit standard are able to: explain, carry out and monitor fermentation processes, manage red cap ferments, perform must/red ferment drainage operations, and dig out tanks in a commercial wine cellar operation.</p>
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Classification	Food and Related Products Processing > Wine Production - Cellar Operations
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Available grade	Achieved
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Explanatory notes

- References**

Enactments and codes relevant to this unit standard include but are not limited to the: Food Act 1981 and Food Act 2014; Health and Safety in Employment Act 1992, which will be replaced by the Health and Safety at Work Act 2015 when it becomes effective on 4 April 2016; Resource Management Act 1991; Food (Safety) Regulations 2002; Food Hygiene Regulations 1974; Australia New Zealand Food Standards Code, available at <http://www.foodstandards.govt.nz/>.
- Definition**

Cellar notes refer to instructions written by the winemaker that relate to the processing of juice and wine.

Workplace procedures – approved procedures used by the organisation carrying out the work and applicable to the tasks being carried out. They may include but are not limited to – standard operating procedures, site safety procedures, equipment operating procedures, codes of practice, quality assurance procedures, housekeeping standards, and procedures to comply with legislative and local body requirements.
- Assessment information**

Evidence is required for at least one fermentation operation for each of red and white wine.

Outcomes and evidence requirements

Outcome 1

Explain wine fermentation processes used in a commercial wine cellar operation.

Range primary fermentation, secondary fermentation.

Evidence requirements

- 1.1 Yeasts and malolactic bacteria that grow in wine are identified and their use in winemaking is explained.
- 1.2 The reasons for using pure yeast cultures in primary alcoholic fermentation are explained.
- Range evidence for a minimum of three reasons is required.
- 1.3 The preparation of yeast culture and yeast starter is explained in accordance with oenology principles.
- 1.4 The procedure for inoculation of juice with yeast is explained in accordance with workplace procedures.
- 1.5 The reasons for use of malolactic secondary fermentation are explained in accordance with oenology principles.
- 1.6 The options for initiating malolactic fermentation are explained.
- Range evidence for a minimum of three options is required.
- 1.7 The reactivation of dried bacteria cultures is explained in accordance with workplace procedures.
- 1.8 The procedure for inoculating must with bacteria culture is explained in accordance with workplace procedures.

Outcome 2

Manage wine fermentation processes in a commercial wine cellar operation.

Range primary fermentation, secondary fermentation.

Evidence requirements

- 2.1 Potential hygiene and safety hazards associated with carrying out fermentation processes are identified, and the steps required to control them are explained and used, in accordance with workplace procedures
- 2.2 Cleaning and sanitising of equipment are confirmed in accordance with workplace procedures.
- 2.3 Culture is propagated, and the juice is inoculated in accordance with cellar notes and workplace procedures.

Outcome 3

Monitor white fermentation process in a commercial wine cellar operation.

Evidence requirements

3.1 Routine monitoring of white fermentation processes are described and carried out in accordance with workplace procedures.

Range sampling and measurement of – temperature, baume, brix hydrometer reading.

3.2 Deviations from normal fermentation conditions are identified, and corrective actions are agreed with the winemaker, and taken, in accordance with workplace procedures.

Range may include but is not limited to – temperature, baume, brix hydrometer reading, fermentation activity, vessel pressure, additions, dilution, oxidation.
Evidence of corrective actions for three deviations is required.

3.3 Fermentation parameters are monitored and recorded in accordance with workplace procedures.

3.4 Variations in parameters are recorded, and reported in accordance with workplace procedures.

Outcome 4

Manage red cap ferments in a commercial wine cellar operation.

Range methods to manage red caps may include but not limited to – delestage, pump over, plunging, rummaging, pulse air, rotary fermenter.

Evidence requirements

4.1 Potential hygiene and safety hazards when managing red caps are identified, and the steps required to control them are explained and used, in accordance with workplace procedures.

4.2 Instructions in cellar notes are interpreted and identify containers, and method required for red cap treatment.

4.3 Additives required for the process are confirmed, quality and availability is established, and additives are prepared, in accordance with workplace procedures.

4.4 Red cap is treated in accordance the cellar notes and workplace procedures.

4.5 Equipment is cleaned and stored, and spills are cleaned up in accordance with workplace procedures.

- 4.6 Documentation is completed, and the results of cap treatment are communicated in accordance with workplace procedures.

Outcome 5

Perform must/ red ferment draining operations in a commercial wine cellar operation.

Evidence requirements

- 5.1 Potential hygiene and safety hazards when performing red ferment draining are identified, and the steps required to control them are explained and used, in accordance with workplace procedures.
- 5.2 Instructions in cellar notes relating to the tanks, ferment destination, drainage time or volume, and tank coverage are interpreted in accordance with workplace procedures.
- 5.3 Cleaning and sanitising of the equipment are confirmed in accordance with workplace procedures.
- 5.4 Equipment is connected, and set up is checked in accordance with workplace procedures.
- Range may include but is not limited to – transfer lines, valves, drain tub, level probes, instrumentation, pump, inert gas system.
- 5.5 Red ferment is drained to meet volume, tank coverage and quality requirements.
- 5.6 Equipment is cleaned and stored, and spills are cleaned up, in accordance with workplace procedures.
- 5.7 Records are completed and stored in accordance with workplace procedures.

Outcome 6

Dig out tanks in a commercial wine cellar operation.

Evidence requirements

- 6.1 Health and safety hazards associated with digging out tanks are identified, and methods to control them are described and used in accordance with workplace procedures.
- 6.2 Equipment required is selected, assembled, cleaned and sanitised in accordance with workplace procedures.
- 6.3 Dig out is carried out in accordance with workplace procedures.
- 6.4 Waste and sub standard materials are handled, disposed of, or recycled in accordance with workplace procedures.

6.5 Equipment is disconnected, cleaned and stored in accordance with workplace procedures.

6.6 Records are completed and stored in accordance with workplace procedures.

Planned review date	31 December 2019
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 November 2015	N/A

Consent and Moderation Requirements (CMR) reference	0013
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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 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 Competenz at qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.