

<b>Title</b>	<b>Describe grapevine physiology, morphology and phenology</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	People credited with this unit standard are able to describe grapevine physiology, morphology, and phenology.
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<b>Classification</b>	Horticulture > Viticulture
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<b>Available grade</b>	Achieved
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### Guidance Information

None.

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### Outcomes and performance criteria

#### Outcome 1

Describe grapevine physiology.

#### Performance criteria

1.1 Describe the process of photosynthesis in grapevines in terms of how factors affect photosynthetic activity.

Range factors include but are not limited to – inputs, outputs, light quality and quantity, plant water availability, temperature, humidity, canopy density, microclimate and macroclimate.

1.2 Describe the process of grapevine transpiration in terms of how factors affect transpiration.

Range factors include but are not limited to – transpiration driving factors, light quality and quantity, plant water availability, temperature, humidity, canopy density, microclimate and macroclimate, vascular tissues, varietal variation and rootstock, wind.

1.3 Describe the processes of translocation in grapevines in terms of how factors affect translocation.

Range factors include but are not limited to – plant water availability, temperature, vascular tissues, energy requirement, carbohydrate status and movement, root and soil interactions.

- 1.4 Describe the functions of a root system in terms of grapevine growth.
- Range functions include but are not limited to – anchorage, storage, hormones, absorption.
- 1.5 Describe canopy management practices in terms of improving grapevine physiology.
- Range practices include but are not limited to – leaf removal, shoot thinning, water management, pruning, trimming or topping, trellising systems.

## Outcome 2

Describe grapevine morphology.

### Performance criteria

- 2.1 Describe the structure of roots in terms of factors that affect grapevine growth.
- Range factors include but are not limited to – structural roots, feeder roots, root hairs, soil water, soil physical properties, soil nutrient status, soil chemistry.
- 2.2 Describe the function of vegetative parts in terms of grapevine vegetative morphology.
- Range parts include but are not limited to – buds, leaves, shoots, tendrils, permanent wood.
- 2.3 Describe the function of reproductive parts in terms of grapevine reproductive morphology.
- Range parts include but are not limited to – inflorescence primordial, buds, flowers, berries, clusters.
- 2.4 Describe grapevine biological differences in terms of varietal amplexography.
- Range biology includes but are not limited to – leaves, tendril, clusters, growth habit; evidence of two varieties is required.

## Outcome 3

Describe grapevine phenology.

### Performance criteria

- 3.1 Describe factors affecting biological life cycles in terms of grapevine phenology.
- Range factors include but are not limited to – environmental factors, hormones.

- 3.2 Describe the vegetative cycle of a grapevine in terms of grapevine phenology.
- 3.3 Describe the reproductive cycle of a grapevine in terms of grapevine phenology.
- 3.4 Describe the carbohydrate storage cycle of a grapevine in terms of grapevine phenology.

<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	25 September 2006	31 December 2024
Review	2	27 January 2022	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0032
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

#### Comments on this unit standard

Please contact Muka Tangata - People, Food and Fibre Workforce Development Council [qualifications@mukatangata.nz](mailto:qualifications@mukatangata.nz) if you wish to suggest changes to the content of this unit standard.