

Title	Describe plant anatomy and morphology and how plants adapt to different environments		
Level	4	Credits	5

Purpose	People credited with this unit standard are able to describe: plant anatomy and morphology; and how plants adapt to specific environments, and management requirements of plants.
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Classification	Horticulture > Production Horticulture
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Available grade	Achieved
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Guidance Information

None.

Outcomes and performance criteria

Outcome 1

Describe plant anatomy and morphology.

Performance criteria

- 1.1 Describe the function of plant cell types in terms of plant growth.
- Range cell types include but are not limited to – phloem, xylem, meristematic tissue, epidermis, storage tissues.
- 1.2 Describe the function of plant cell types in terms of tissue structure.
- Range cell types include but are not limited to – phloem, xylem, meristematic tissue, epidermis, storage tissues.
- 1.3 Describe the morphological structures of plant organs.
- Range roots, stems, leaves, fruit.

Outcome 2

Describe how plants adapt to specific environments, and management requirements of plants.

Performance criteria

- 2.1 Describe plant growth processes in terms of optimum plant growth.
- Range processes include but are not limited to – photosynthesis, respiration, water movement, nutrient uptake, cell division.
- 2.2 Describe the way in which plant adaptations can maximise plant growth in terms of specific growing environments.
- Range plants include but are not limited to – xerophytes, mesophytes, hydrophytes, halophytes, shade and sun plants.
- 2.3 Describe the distribution of vegetation in New Zealand in terms of plant growth in different climatic and environmental conditions.
- Range conditions include but are not limited to – temperate, tropical, arid, saline.
- 2.4 Describe a range of plant life cycles and forms in terms of their management requirements.
- Range plant life cycles include but are not limited to – annual, biennial, perennial;
plant forms include but are not limited to – angiosperm, fern, moss, liverworts.

Planned review date	31 December 2027
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 July 2006	31 December 2021
Review	2	18 May 2017	31 December 2023
Review	3	30 June 2022	N/A

Consent and Moderation Requirements (CMR) reference	0052
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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 if you wish to suggest changes to the content of this unit standard.