

Title	Demonstrate knowledge of plant processes and plant life cycles		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to: demonstrate knowledge of plant processes; describe how environmental factors affect plant processes; and demonstrate knowledge of plant life cycles.
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Classification	Horticulture > Production Horticulture
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Available grade	Achieved
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Explanatory notes

None.

Outcomes and evidence requirements

Outcome 1

Demonstrate knowledge of plant processes.

Evidence requirements

- 1.1 Photosynthesis is described in terms of its importance to plant growth and development.
- 1.2 Respiration is described in terms of its importance to plant growth.
- 1.3 Water uptake, movement, and transpiration are described in terms of plant growth and development.
- 1.4 Nutrient uptake and use are described in terms of plant growth.
- 1.5 Pollination, fertilisation, seed and fruit formation are described in terms of their significance to plant regeneration.

Outcome 2

Describe how environmental factors affect plant processes.

Range light, temperature, water, wind, oxygen, and carbon dioxide.

Evidence requirements

**This unit standard is
expiring**

- 2.1 Photosynthesis is described in terms of how it is affected by environmental factors.
- 2.2 Respiration is described in terms of how it is affected by environmental factors.
- 2.3 Water uptake and transpiration are described in terms of how they are affected by environmental factors.
- 2.4 Nutrient uptake is described in terms of how it is affected by environmental factors.
- 2.5 Pollination, fertilisation, seed and fruit formation are described in terms of how they are affected by environmental factors

Outcome 3

Demonstrate knowledge of plant life cycles.

Evidence requirements

- 3.1 Plant life cycles are described in terms of their specific characteristics.
Range annuals, biennials, perennials.
- 3.2 Plant life cycles are compared in terms of their ability to regenerate offspring.
Range bryophytes, ferns, gymnosperms and angiosperms.

Replacement information	This unit standard and unit standard 22177 were replaced by unit standard 29829.
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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	25 July 2006	31 December 2021
Review	2	19 January 2017	31 December 2021

Consent and Moderation Requirements (CMR) reference	0032
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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 Consent and Moderation Requirements (CMR). 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.

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expiring**