

Title	Describe post-harvest physiology and storage		
Level	5	Credits	5

Purpose	People credited with this unit standard are able to describe: post-harvest physiology and crop loss; factors which influence crop quality loss and storage life in a storage facility; production factors which influence crop storage life.
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Classification	Horticulture > Production Horticulture
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Available grade	Achieved
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Guidance Information

Legislation relevant to this unit standard includes but is not limited to:

- Health and Safety at Work Act 2015; and any subsequent amendments.

Outcomes and performance criteria

Outcome 1

Describe post-harvest physiology and crop loss.

Performance criteria

1.1 Describe the stages of crop growth in terms of the physiological changes that occur from flowering to senescence.

1.2 Describe crop physiology in terms of post-harvest storage conditions.

Range respiration, ethylene production, water loss, ripening.

1.3 Describe possible causes of premature crop loss in terms of post-harvest storage situations or conditions.

Range causes may include but are not limited to – developing disorders, succumbing to diseases, succumbing to mechanical damage, freezing; evidence of two causes is required.

- 1.4 Describe factors that contribute to the causes of premature crop loss, and options to mitigate against the risk of occurring in terms of post-harvest storage situations or conditions.

Range causes include but are not limited to – chilling injury, rot development, mechanical damage, freezing; evidence of two factors for each cause is required.

Outcome 2

Describe factors which influence crop quality loss and storage life in a storage facility.

Performance criteria

- 2.1 Describe factors that influence the rate of crop quality loss and storage life in relation to the storage facility.

Range factors include but are not limited to – temperature, rate of cooling, relative humidity, atmosphere composition, packaging, product variability, fluctuations in conditions.

- 2.2 Describe the type, timing and modes of action of various post-harvest treatments and/or management techniques used to reduce the rate of quality loss and storage life relevant to the type of crop and market requirements.

Range treatments and techniques include but are not limited to – temperature treatments, atmospheres, packaging, coatings, produce protectants, management of airflow.

Outcome 3

Describe production factors which influence crop storage life.

Performance criteria

- 3.1 Describe seasonal factors in terms of their influence on crop storage behaviour.

Range evidence of two seasonal factors is required.

- 3.2 Describe the timing of harvest in terms of their influence on crop storage behaviour.

- 3.3 Describe the availability and uptake of nutrients in terms of their influence on crop storage behaviour.

- 3.4 Describe post-harvest handling techniques in terms of keeping produce fresh, therefore prolong storage life and prevent tissue respiration.

Planned review date	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	16 February 2017	31 December 2023
Review	2	16 December 2021	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.