Title	**Describe compost making, and make compost in organic horticulture**		
Level	**3**	**Credits**	**5**

Purpose	People credited with this unit standard are able to: describe the process of composting and the characteristics of suitable materials; make compost using a selected method; describe and test for characteristics that determine compost quality; and describe application of compost in horticulture.

Classification	Horticulture > Production Horticulture

Available grade	Achieved

Guidance Information

1 Legislation and standards relevant to this unit standard includes but are not limited to:
- Hazardous Substances and New Organisms Act 1996;
- Health and Safety at Work Act 2015;
- Resource Management Act 1991;
- Demeter Standards, available at www.biodynamic.org.nz;
- BIO-GRO, available at www.bio-gro.co.nz;
- Agriquality Organic Standards, available at www.agriquality.co.nz;

and any subsequent amendments.

2 All evidence presented in this unit standard must be in accordance with workplace procedures.

3 Definition
Workplace procedures refer to policies and procedures on safety, operation, and production set down by the employer or host organisation for compost making.

Outcomes and performance criteria

Outcome 1

Describe the process of composting and the characteristics of suitable materials.

Performance criteria

1.1 Describe the decomposition of organic material to humus in terms of the key principle of composting.

1.2 Describe the actions of micro organisms and chemical processes in terms of composting.

Range actions include but are not limited to – pH influences on bacterial and fungal activity; interaction between oxygen, carbon, nitrogen and water; heat generation.

1.3 Describe the role and requirements of earthworms in terms of the production of humus.

1.4 Describe the benefits of compost in terms of use in horticulture.

Range benefits may include but are not limited to – soil structure development, aeration, supply of nutrients, pH modification, production of growth stimulants, pest control, chelation, stimulation of beneficial microbiological growth;
evidence of five benefits is required.

1.5 Describe input material requirements for composting, and the role of each in terms of compost development.

Range materials include but are not limited to – balance material types, approved activators and additives, free of toxic elements, balance of textures and fibrous content, uncontaminated with chemical residue.

1.6 Describe compost making in terms of a method used in horticulture.

Range methods may include but are not limited to – indoor method, Bio-dynamic composting, aerobic ‘in vessel’ methods using effective micro organisms;
evidence of one method is required.

Outcome 2

Make compost using a selected method.

Performance criteria

2.1 Make compost in accordance with a selected method.

Range methods may include but are not limited to – indoor method, Bio-dynamic composting, aerobic ‘in vessel’ methods using effective micro organisms;
evidence of one method is required.

2.2 Implement compost making practices to achieve quality humus.

Range practices may include but are not limited to – optimum carbon to nitrogen ratio, optimum moisture content, provision for aeration, turned as required, shredding of coarse material, particle size management, temperature monitoring provision;
evidence of three practices is required.

Outcome 3

Describe and test for characteristics that determine compost quality.

Performance criteria

3.1 Describe compost characteristics for compost quality.

Range characteristics include but are not limited to – stable, weed free, disease free, fine structure, contaminant free, dark coloured, characteristic smell, growth enhancing, pH, nutrient level, humus content.

3.2 Describe and carry out compost testing in terms of quality requirements.

Range tests may include but are not limited to – germination rate, pH testing, conductivity, pathogens, nutrient testing, oxygen content, contamination using bio-indicator plants, quick nitrate and ammonium tests;
evidence of three tests is required.

3.3 Describe factors contributing to contamination of compost in terms of heavy metals and pesticides and describe certified organic horticultural production testing requirements.

3.4 Describe characteristics of unfinished compost in terms of their associated effects on plant and soil health.

Outcome 4

Describe application of compost in horticulture.

Performance criteria

4.1 Describe compost application in terms of uses in horticulture.

Range uses may include but are not limited to – mulch, worked into soil, mixed into potting media, extract applied as spray;
evidence of three uses is required.

4.2 Describe compost application in terms of optimum application times.

Planned review date	31 December 2026

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	27 October 2006	31 December 2024
Review	2	27 January 2022	N/A

Consent and Moderation Requirements (CMR) reference	0032

This CMR can be accessed at http://www.nzqa.govt.nz/framework/search/index.do.

Comments on this unit standard

Please contact the 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.