ASSESSMENT GUIDELINES

Unit 21045

Demonstrate and apply knowledge of compost making in organic horticulture

Level 3, Credit 5, version 1

Demonstrate and apply knowledge of compost making in organic horticulture

Unit standard 21045
Level 3, Credit 5, Version 1

Level of performance required for this unit standard

This is a level 3 unit standard. At this level trainees are expected to demonstrate the following abilities when completing assessment tasks:

- To work under general supervision, with some independence; with significant responsibility for the standard of the outcome achieved.
- To apply technical skills and knowledge to complete the task to the specified standard, in a familiar context.
- To interpret available information, and use discretion and judgement.

Workplace assessment:

For guidelines on Workplace Assessment, please refer to the NZHITO Workplace Assessors Manual, and for further information, please contact: NZHITO, P O Box 8638, Christchurch.
Ph 03 9644 735, fax 03 9644 737, website www.hortito.org.nz.

Special notes:

1. The following standards apply to this unit standard:
   Demeter Standards, Bio Dynamic Farming and Gardening Association, PO Box 39045, Wellington Main Centre, Phone 04 589 5366, Fax 04 589 4365, http://www.biodynamic.org.nz;
   BIO-GRO Standards, BIO-GRO New Zealand, PO Box 9693, Marion Square, Wellington, Phone 04 801 9741, Fax 04 801 9742, http://www.bio-gro.co.nz;
   Agriquality New Zealand, Agriquality Organic Standards, http://www.agriquality.co.nz;
   The Soil and Health Association of New Zealand (Organic Farm New Zealand), http://www.organicnz.org;
   The New Zealand Food Safety Authority, http://www.nzfsa.govt.nz/organics;
   NZS 8410:2003 *Organic production*, available from Standards New Zealand http://www.standards.co.nz.

Unit 21045: Demonstrate and apply knowledge of compost making in organic horticulture (Apprentice copy)

ELEMENT	Competent	Range of evidence an assessor should consider
Element 1 Demonstrate knowledge of the process of composting and the characteristics of suitable materials.	**Yes/No**	▪ The decomposition of organic material to humus as the key principle of composting is described. ▪ Action of micro-organisms and chemical processes in composting are described. Range: pH influences on bacterial and fungal activity; interaction between oxygen, carbon, nitrogen and water; heat generation. ▪ Role and requirements of earthworms in the production of humus are described. ▪ Benefits of compost use are described. Range: five of – soil structure development, aeration, supply of nutrients, pH modification, production of growth stimulants, pest, chelation, stimulation of beneficial microbiological growth. ▪ Input material requirements for composting, and the role of each in compost development, are described. Range: balance material types, approved activators and additives, free of toxic elements, balance of textures and fibrous content, uncontaminated with chemical residue. ▪ Compost making using each of the following methods is described. Range: Indoor method, Bio-dynamic composting, aerobic 'in vessel' methods using effective micro-organisms.
Element 2 Make compost using a selected method.	**Yes/No**	▪ Compost is made in accordance with selected methods. Range: Indoor method, Bio-dynamic composting, aerobic 'in vessel' methods using effective micro-organisms. ▪ Compost making practices enable required humus quality to be achieved. Range: optimum carbon to nitrogen ratio, optimum moisture content, provision for aeration, turned as required, shredding of coarse material, particle size management, temperature monitoring provision.
Element 3 Describe and test for characteristics that determine compost quality.	**Yes/No**	▪ Characteristics of good compost are described. Range: stable, weed free, fine structure, contaminant free, dark coloured, characteristic smell, growth enhancing, pH, nutrient level, humus content. ▪ Compost quality testing requirements are described and carried out. Range: three of – germination rate, pH testing, conductivity, pathogens, nutrient testing, oxygen content, contamination using bio-indicator plants, quick nitrate and ammonium tests. ▪ Factors contributing to heavy metal and pesticide contamination of compost are described and testing requirements for certified organic horticultural production are explained. ▪ Characteristics of unfinished compost and their associated affects on plants and soil health are described.
Element 4 Describe application of compost in horticulture.	**Yes/No**	▪ Methods of compost application are described. Range: mulch, worked into soil, mixed into potting media, extract applied as spray. ▪ Description includes reference to optimum times for compost application.

_____ *(Name of Apprentice)*

is **Competent / Not yet competent** in Unit Standard 21045 (version 1)

Signed (Assessor): _____

WPA Registration Number: _____ Date: _____

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Please send this page to your NZHITO Regional Manager, who will forward it to National Office to register the credits on your NZQA Record of Learning.

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