

Title	Demonstrate understanding of soil management to increase production in a primary industry workplace		
Level	3	Credits	12

Purpose	This unit standard is intended for people who are required to apply knowledge of soils and soil management practices to increase production in a primary industry workplace.
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Classification	Agriculture > General Agriculture
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Available grade	Achieved
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Guidance Information

- 1 Soil management practices must be sustainable and may include, but are not limited to: drainage, irrigation, aeration, erosion control, the addition of soil organisms, and organic matter.
- 2 *Soil properties* are defined as the soil forming factors, and physical, biological and chemical factors. Examples of soil properties include: soil type and classification, water holding capacity; soil structure and texture; micro and macro organisms, organic matter.
- 3 Learners in a dairy farming context must include the use of effluent as a fertiliser.
- 4 Demonstration of understanding may be assessed in a number of ways, which could include ability to complete practical tasks, if it is clear that the understanding is essential underpinning understanding to the task/s, and that the task/s could not be completed without the candidate having that understanding.
- 5 In the context of this unit standard, *understanding* means that there should be evidence of a learners' thorough comprehension of a topic. A learner with a good understanding of a topic should have applied, or should be able to apply what they have learnt to a workplace situation and will be able to alter their practices to the different contexts they are applying their learning to. Assessors should be confident that the learners' understanding is embedded in their practices and behaviour.

Outcomes and performance criteria

Outcome 1

Demonstrate understanding of the management of the physical and biological properties of soil to increase production.

Performance criteria

- 1.1 Describes the factors that contribute to formation of a soil.
- 1.2 Explains how soil properties affect production in a primary industry workplace.
Range minimum of five properties.
- 1.3 Identifies and explains soil management practices which affect production in a primary industry workplace.
Range minimum of two practices.

Outcome 2

Demonstrate understanding of the management of soil fertility and pH to increase production in a primary industry workplace.

Performance criteria

- 2.1 Identifies deficiencies and describes remedial action for deficiencies of nitrogen, phosphorus, sulphur and potassium in plants.
- 2.2 Describes the effect of a one micronutrient deficiency on production.
- 2.3 Explains nutrient losses from a primary industry production system and describes ways to minimise these losses.
Range minimum of two nutrients.
- 2.4 Identifies target fertility levels for a soil in a primary industry workplace.
- 2.5 Describes how fertilisers are used to correct nutrient deficiencies and increase production.
- 2.6 Describes how pH affects plant growth and nutrient availability.
- 2.7 Describes methods of optimising pH.
- 2.8 Describes soil testing procedures, and how the results are used.

Replacement information	This unit standard was replaced by unit standard 32090. This unit standard replaced unit standards 19142 and 24543.
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	16 July 2015	31 December 2022
Review	2	27 February 2020	31 December 2022

Consent and Moderation Requirements (CMR) reference

0052

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

This unit standard is expiring