



Australian Government

AHCSOL406 Sample soils and interpret results

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to prepare for soil sampling, collect soil samples and interpret test results.

The unit applies to individuals who apply specialist skills and knowledge to sample soils and interpret results. This includes applying and communicating non-routine technical solutions to predictable and unpredictable problems.

All work is carried out to comply with workplace procedures, health and safety in the workplace requirements, legislative and regulatory requirements, and sustainability and biosecurity practices.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Nil

Unit Sector

Soils and Media (SOL)

Elements and Performance Criteria

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for soil sampling	1.1 Identify soil to be sampled and sampling method 1.2 Select tools, equipment and machinery required for safely collecting soil samples according to testing agency requirements 1.3 Identify areas of homogeneous soil types for sampling

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.4 Locate services in consultation with site supervisor 1.5 Identify hazards and assess risks in the workplace, and implement controls to manage risks according to workplace health and safety procedures 1.6 Select, fit and use safety and personal protective equipment according to workplace procedures 1.7 Prepare a clean and safe work area and maintain throughout and on completion of work
2. Determine soil characteristics by performing soil sampling	2.1 Determine the density and depth for a representative sampling of the area 2.2 Take soil sub-samples at identified sampling sites 2.3 Collect soil samples for testing 2.4 Prepare, package, label and dispatch samples for off-site testing 2.5 Document the physical and chemical characteristics of the soil 2.6 Clean and store sampling and testing tools, equipment and machinery according to workplace requirements
3. Interpret results of soil analysis	3.1 Classify the soil types of the sample area according to standards for soil classification 3.2 Determine, from published data and records, the acceptable soil physical and chemical parameters for a specified plant 3.3 Compare collected analytical results with acceptable physical and chemical parameters for a specified plant 3.4 Evaluate soil characteristics to determine whether they can be altered to meet plant needs 3.5 Determine the Readily Available Water (RAW) values for irrigation sites 3.6 File and record results according to workplace procedures 3.7 Provide recommendations to improve soil characteristics

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential for performance in this unit of competency but are not explicit in the performance criteria.

Skill	Description
Reading	Identify and interpret textual information regarding testing agency requirements and standards for soil classification
Numeracy	- Interpret and compare numerical information from published data and records with analytical results to determine acceptable soil physical and chemical parameters for a specified plant - Calculate RAW values for irrigation site

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCSOL406 Sample soils and interpret results	AHCSOL401 Sample soils and interpret results	Minor changes to application Major changes to performance criteria Foundation skills added Assessment requirements updated	Not equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCSOL406 Sample soils and interpret results

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Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that the individual has sampled soils and interpreted results on at least two occasions, and has:

- identified and collected soil samples using appropriate sampling methodology
- applied testing agency requirements applicable to sampling soils
- applied workplace health and safety requirements applicable to sampling soils
- prepared soil samples for dispatch to soil analysis laboratory
- received, interpreted and compared published data and records with analytical results
- filed and recorded results according to workplace procedures
- provided soil improvement recommendations.

Knowledge Evidence

An individual must be able to demonstrate the knowledge required to perform the tasks outlined in the elements and performance criteria of this unit. This includes knowledge of:

- testing agency requirements applicable to sampling soils
- workplace health and safety requirements applicable to sampling soils
- principles and practices of soil sampling, including:
 - environmental implications associated with soil sampling activities and the application of analytical results
 - practical understanding of the range of sample collection, testing and analytical methods that may be used to perform soil samples, and the association of sampling methods with site conditions, environmental implications and intended horticultural use of the sampled site
 - soil ameliorants and soil improvement techniques for addressing site limitations identified through sampling
 - the capacity of soils to provide water to plants

- the importance of organic matter in soil in relation to the intended horticultural use
- the physical and chemical properties of soils in relation to their ability to support specified horticultural production
- workplace filing and recording procedures.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - soil sampling and testing tools, equipment and machinery
 - safety and personal protective equipment applicable to soil sampling
 - principles and practices of soil sampling
- specifications:
 - testing agency requirements applicable to sampling soils
 - workplace health and safety requirements applicable to sampling soils
 - workplace filing and recording procedures
- relationships:
 - supervisor
- timeframes:
 - according to job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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