



Australian Government

AHCSOL401 Sample soils and interpret results

Release: 1

AHCSOL401 Sample soils and interpret results

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to take a soil sample and interpret the test results.

This unit applies to individuals whose job role includes undertaking soil or growing media sampling and interpreting the results as a foundation for further horticultural operations such as nutrition programs and irrigation scheduling.

This unit applies to individuals who analyse information and exercise judgement to complete a range of advanced skilled activities and demonstrate deep knowledge in a specific technical area. They have accountability for the work of others and analyse, design and communicate solutions to a range of complex problems. All work is carried out to comply with workplace procedures.

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

Pre-requisite Unit

Nil.

Unit Sector

Soils and media (SOL)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Prepare for soil sampling	1.1 Identify the soils to be surveyed, surveying activity and contractors 1.2 Select tools, equipment and machinery as required by the testing agency requirements

Element	Performance criteria
	1.3 Carry out pre-operational and safety checks on tools, equipment and machinery 1.4 Identify areas of homogeneous soil types for sampling 1.5 Locate services in consultation with the supervisor 1.6 Identify work and safety hazards, assess risks and implement controls 1.7 Select and use suitable safety equipment and personal protective equipment (PPE) 1.8 Maintain a clean and safe work area 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 Excavate holes at identified sampling sites 2.3 Collect and prepare, label, package and dispatch samples for off-site testing 2.4 Determine the physical and chemical characteristics of the soil 2.5 Clean and store sampling and testing tools and equipment 2.6 Record results
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 values for irrigation sites

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

This unit is equivalent to AHCSOL401A Sample soils and interpret results.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCSOL401 Sample soils and interpret results

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Performance Evidence

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must provide evidence that they can:

- collect soil and media samples using appropriate sampling methodology
- file and record analytic results for future use
- implement a nutrient and nutrition program
- prepare soil and media samples for dispatch to soil analysis laboratory
- receive and interpret analytic results

Knowledge Evidence

The candidate must demonstrate knowledge of:

- principles and practices of soils sampling
 - environmental implications associated with soil surveying 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 surveys, and the association of surveying methods with site conditions, environmental implications and intended horticultural use of the surveyed site
 - soil ameliorants and soil improvement techniques for addressing site limitations identified through surveying
 - 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

Assessment Conditions

Assessors must satisfy current standards for RTOs.

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