



Australian Government

Assessment Requirements for AHCSOL508 Manage soils to enhance sustainability

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.

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 managed soils to enhance sustainability on at least one occasion, and has:

- researched information on soils
- assessed soil type, texture and structure in the paddock
- diagnosed areas with soil problems or potential soil problems
- developed, implemented, monitored and evaluated a plan to achieve healthy soils through application of soil science
- diagnosed and interpreted soil sample test results, and determined priorities for improving soil health
- calculated amounts of nutrients required, and prepared a fertiliser program that reflects needs and priorities
- considered and selected alternatives, including organic products and methods for improving soil health
- recorded and filed soil management activities according to workplace procedures.

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:

- physical, chemical and biological properties of soils
- extent and nature of soil microorganisms
- soil biota types, role in cycling nutrients and improving soil structure
- natural cycling of nutrients, including:
 - carbon
 - nitrogen
 - phosphorous

- the role of soil biota
- factors affecting soil biota, including:
 - moisture
 - temperature
 - aeration
 - nutrient supply
 - pH
 - organic matter
- basic chemistry concepts related to interpreting soil test analysis, including:
 - symbols, elements and compounds
 - valency, anions, cations
 - reactions
 - EC (electrical conductivity)
 - CEC (Cation Exchange Capacity)
 - organic matter
 - pH and its importance in the availability of nutrients
 - role of macronutrients and micronutrients in plant nutrition
 - the concept of limiting factors for production
- basic biology, including:
 - chemical basis of plants and animals
 - basic plant structure and function
- plant nutrition, including:
 - water
 - proteins
 - sugar
 - nitrate
 - lignin content
- potential problems with the use of conventional chemical fertilisers, including:
 - acidification
 - contamination of soil and associated water contamination
 - harm to soil biota
- alternative methods to improve soil fertility, including:
 - products
 - aeration and mulching machinery
- workplace recording and filling 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
- specifications:
 - workplace recording and filling procedures
- relationships:
 - staff and stakeholders
- 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

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