



Australian Government

AHCCFP401 Increase soil organic carbon using land management practices

Release: 1

AHCCFP401 Increase soil organic carbon using land management practices

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge required to identify the benefits of increasing soil organic carbon for soil condition or soil health, and to implement a project to increase soil carbon.

The unit applies to individuals who participate in farming and/or land management activities. It may lead to participation in an approved carbon farming project to generate carbon credits.

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

Pre-requisite Unit

Nil

Unit Sector

Carbon Farming (CFP)

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. Identify benefits of increasing soil organic carbon	1.1 Identify the role, and forms, of soil organic carbon in soil 1.2 Identify carbon as a component of soil organic matter 1.3 Analyse the benefits of increasing soil organic carbon in soil 1.4 Identify the role of photosynthesis in increasing soil organic carbon 1.5 Determine land management practices that store or sequester

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	carbon 1.6 Identify other interactions of ecosystem processes in increasing soil organic carbon
2. Identify co-benefits of increasing soil organic carbon	2.1 Identify land management practices to increase soil organic carbon 2.2 Consider the social and cultural, environmental and economic benefits of increasing soil organic carbon
3. Plan project to increase soil organic carbon	3.1 Identify site for soil carbon project 3.2 Identify and select a strategy or method to increase soil organic carbon 3.3 Identify equipment and resources required 3.4 Carry out cost-benefit analysis of implementing the project 3.5 Plan strategy to measure soil organic matter in soil, and record results
4. Implement project	4.1 Measure and record soil carbon as baseline for project 4.2 Implement project in line with selected method and document results 4.3 Monitor and maintain soil to preserve soil health through changing conditions

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	Interpret written material focused on increasing carbon in soil
Numeracy	Uses formulae to calculate soil organic matter (SOM)

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCCFP401 Increase soil organic carbon using land management practices	Not applicable	New unit	No equivalent unit

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 AHCCFP401 Increase soil organic carbon using land management practices

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 4.0.

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 increased carbon in soil for a designated plot of land, including:

- identified the benefits and co-benefits of increasing carbon in soil
- planned and implemented a project to increase soil organic matter in soil.

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:

- how land use and management practices impact on soil health
- physical, chemical and biological properties of healthy soil
- opportunities presented by degraded soil (or soil that has less soil carbon than normally expected under standard, normal or common land management practices for the local area)
- land management practices that have the potential to increase soil health and agricultural productivity, dependent on local climate and soil type, including:
 - no till or conservation tillage and controlled traffic
 - cover crops
 - pasture cropping
 - crop rotation (depending on rotation and crop)
 - perennial-based systems
 - integrated pest management and weed management
 - managed movement of water
- co-benefits of increased carbon in soil, including:

- environmental benefits: improved biodiversity above and below ground, improved air, water and soil quality, reduced greenhouse gas emissions, improved movement of water across landscape, reduced salinity/erosion/acidification/compaction, increased resilience to drought, and increased land versatility
- social benefits: including increased resilience to drought, more stable and diverse income, healthier people and communities, and improved succession planning
- economic benefits: including potential for diversified income streams, increased farm productivity, access to finance, increased land versatility, new skills and career development, and less income spent on supplements and fertilisers.
- reasons for measuring soil organic carbon, including as a measure of soil health and as an estimate of stocks of soil organic carbon for carbon trading
- informal methods for measuring soil carbon, including percentage tests across a paddock
- using baseline measurements to estimate potential additional soil carbon
- approved methods for soil-based carbon farming projects
- soil quality calculators at soilquality.org.au.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated in a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - designated plot of land that has potential for increasing soil organic carbon
 - equipment and resources relevant to method
 - access to information about soil land management methods and practices.

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>