Modification history

|  |  |
| --- | --- |
| Release | Comments |
| Release 1 | This version released with Agriculture Horticulture and Conservation and Land Management Training Package 4.0. |

| AHCCFP4X1 | Increase soil organic carbon |
| --- | --- |
| 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, or may not, lead on to participation in an approved carbon farming project to generate carbon credits.  No occupational licensing, legislative or certification requirements apply to this unit at the time of publication. |
| Prerequisite unit | Nil |
| Unit sector | Carbon Farming |

| Elements | Performance Criteria |
| --- | --- |
| Elements describe the essential outcomes. | Performance criteria describe the performance needed to demonstrate achievement of the element. |
| 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, carbon |
| 2. Identify co-benefits of increasing soil organic carbon | 2.1 Identify land management practices to increase soil organic carbon  2.4 Consider the social and cultural, environmental and economic benefits and co-benefits of increasing soil organic carbon |
| 3. Plan project to increase soil organic carbon | 3.1 Identify plot for project  3.2 Identify 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 Identify potential soil carbon project method  4.2 Measure soil carbon in soil as baseline for project  4.3 Implement project in line with project method  4.4 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 | * Engage with written material focussed on increasing carbon in soil |
| Numeracy | * Use formulae to calculate soil organic matter (SOM) |

|  |  |  |  |
| --- | --- | --- | --- |
| Unit mapping information | | | |
| Code and title current version | Code and title previous version | Comments | Equivalence status |
| AHCCFP4X1 Increase soil organic carbon |  | New unit | No equivalent unit |

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

| TITLE | Assessment requirements for AHCCFP4X1 Increase soil organic carbon |
| --- | --- |
| 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 reduced less soil carbon than normally expected under a 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 * crop rotation (depending on rotation and crop) * perennial based systems * integrate pest management and weed management * manage 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, increased land versatility * social benefits of carbon in soil including: increased resilience to drought, more stable and diverse income, healthier people and communities, improved succession planning * economic benefits of carbon in soil, including diversified income streams, increased farm productivity, access to finance, increased land versatility, new skills and career development, less income spent on supplements and fertilizers. * 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 * baseline measurements should allow scope for improvement * 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:   * resources, equipment and materials: * designated plot of land * equipment and resources relevant to method * access to information about soil carbon farming 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 at: <https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>. |