Modification history

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version XX
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0

AHCORG403	Manage organic soil improvement
Application	This unit of competency describes the skills and knowledge required to monitor soil conditions, assess improvements required and develop and implement a soil improvement program according to national standards for organic and biodynamic production . The unit applies to individuals who take responsibility for their own work and for the quality of the work of others within know parameters and use discretion and judgment in the selection, allocation and use of available resources. No licensing, legislative or certification requirements apply to this unit at the time of publication.
Prerequisite Unit	Nil
Unit Sector	Organic Production (ORG)

Elements	Performance Criteria
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Monitor indicators of soil fertility	1.1 Determine the objective for soil condition for farm according to workplace conditions and organic agriculture standards 1.2 Develop baseline data from soil sample and test conducted on reference sites across property according to organic industry standards 1.3 Assess and record soil chemical and physical characteristics 1.4 Assess and record soil biological activity 1.5 Analyse test results to identify trends in soil health and fertility and areas for improvement 1.6 Identify health, safety and environmental hazards, assess risk and implement controls according to workplace procedures
2. Assess soil-related factors for selected plants	2.1 Identify nutritional requirements of selected plant species 2.2 Conduct field observations of plants and soil to identify possible defects 2.3 Select soil and plant tissue tests for laboratory testing 2.4 Sample plant tissue and soils according to testing laboratory specifications 2.5 Determine management and input requirements for farming system according to soil and plant tissue test results and observations
3. Select, design and implement allowable systems, techniques and inputs to optimise soil fertility	3.1 Identify range of permitted inputs according to National Standard for Organic and Biodynamic Produce 3.2 Identify and implement cultural practices to enhance soil fertility, function and health 3.3 Calculate inputs based on soil and plant analyses, and observations 3.4 Select and manage cover crop and pasture systems according to work[place procedures 3.5 Develop, apply and monitor mulching and composting systems according to production plan 3.6 Design and implement crop rotations and grazing management systems to optimise soil fertility according to production plan

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	• Critically analyse organic production principles, standards and certification procedures to ensure compliance with organic soil improvement strategies
Writing	• Develop procedural material for organic production using clear industry specific language in order to convey explicit information for soil improvement
Numeracy	• Perform mathematical calculations to interpret and condense complex soil test results when developing soil improvements for organic farm

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCORG403 Manage organic soil improvement Release 2	AHCORG403 Manage organic soil improvement Release 1	Minor changes to Application Minor edits and changes to sequencing of Performance Criteria for clarity	Equivalent

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

TITLE	Assessment requirements for AHCORG403 Manage organic soil improvement

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 on at least one occasion managed the improvement of soil on an organic farm and has:

- implemented principles of organic agriculture and agroecology
- devised and implement a soil improvement plan to correct imbalances and maintain soil fertility
- sampled soil, conducted tests and analysed soil test results for the following physical and chemical indicators of soil condition and fertility:
  - soil texture
  - structure
  - salinity
  - sodicity
  - pH
  - mineral balances
  - organic matter
  - drainage
  - compaction
  - aeration
  - water infiltration
- improved and maintained soil fertility using natural processes and according to National Standard for Organic and Biodynamic Produce
- applied workplace health, safety and environmental procedures and practices.

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:

- availability, use and definition of organic fertilisers
- physical and chemical properties of soil, including:
  - factors contributing to soil acidity, sodicity and salinity
  - factors promoting soil and plant water-holding capacity
  - importance of soil biological activity
  - major nutrient elements and their role in plant growth
  - soil textural types and determinants
- soil sampling and testing procedures for indicators of soil fertility including:
  - soil texture
  - structure
  - salinity
  - sodicity
  - pH
  - mineral balances
  - organic matter
  - drainage
  - compaction
  - aeration
  - water infiltration
  - sampling and preparing soils to submit for laboratory testing
- methods and inputs that can be used to correct imbalances and maintain soil fertility
- principles of organic agriculture and soils
- processes and practices that impact on soil structure, biological activity, water-holding capacity and weed patterns
- processes of aggregate and colloid formation
- range of soil analyses available and principles of each
- relationship between plants, soil structure, water holding capacity and nutrient availability, including:

Knowledge Evidence

- role of organic matter, humus and micro-organisms
- role of livestock in enhancing soil fertility
- role of macro and micro-elements in soil and plants
- role of weeds
- significance of levels and balance of soil fertility indicators
- soil food chains and food webs
- principles, practices and inputs allowable under the National Standard for Organic and Biodynamic Produce.

Assessment Conditions

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

- physical conditions:
  - skills must be demonstrated on an organic farm or an environment that accurately represents workplace conditions
- resources, equipment and materials:
  - use of tools and equipment for sampling and testing soils
  - use of personal protective equipment
- specifications:
  - use of workplace policies, procedures and processes
  - use of manufacturer operating instructions for sampling and testing equipment
  - access to safety data sheets
  - use of workplace specifications for soils
  - access to specific organic and biodynamic standards and codes of practice.

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