Australian Government

Department of Education, Employment and Workplace Relations

# AHCORG403A Manage organic soil improvement

**Release: 1**

## AHCORG403A Manage organic soil improvement

# Modification History

Not Applicable

# Unit Descriptor

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| **Unit descriptor** | This unit covers the management of organic soil improvement and defines the standard required to: understand and apply principles of organic agriculture; understand and apply knowledge of interrelationships between soil fertility, animals, plants, pests and diseases; devise and implement a soil improvement plan to correct imbalances and maintain soil fertility; apply the results of soil tests for a range of indicators of soil fertility; and work with natural processes and allowable inputs to improve and maintain soil fertility. |

# Application of the Unit

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| **Application of the unit** | This unit applies to managers on farms that are managed according to the principles of organic agriculture. Work is likely to be done independently and according to the requirements of the National Standard for Organic and Biodynamic Produce. |

# Licensing/Regulatory Information

Not Applicable

# Pre-Requisites

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| **Prerequisite units** | | |
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# Employability Skills Information

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| **Employability skills** | This unit contains employability skills. |

# Elements and Performance Criteria Pre-Content

Not Applicable

# Elements and Performance Criteria

| ELEMENT | PERFORMANCE CRITERIA |
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| ELEMENT | PERFORMANCE CRITERIA |
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| 1. Monitor indicators of soil fertility | 1.1. Work is undertaken in an environmentally appropriate manner and according to workplace information, principles of organic agriculture, Occupational Health and Safety (OHS) requirements and enterprise guidelines.<br>1.2. Soil testing is conducted at reference sites according to enterprise procedures and organic industry standards.<br>1.3. Soil acidity or alkalinity (pH), mineral balances and organic matter levels are assessed and recorded.<br>1.4. Soil texture, structure, salinity and sodicity are assessed and recorded.<br>1.5. Soil biological activity is assessed and recorded<br>1.6. Soil condition is assessed for drainage, compaction, aeration and water infiltration in relation to requirements for desired plant growth for selected species.<br>1.7. Results are analysed to identify trends in soil health and fertility and areas for improvement. |
| 2. Assess soil-related factors for selected plants | 2.1. Nutritional requirements of selected plant species are identified.<br>2.2. Soil analyses to be conducted and suitable testing facilities are selected.<br>2.3. Plant tissue sample collection is conducted according to enterprise procedures and requirements of testing facility.<br>2.4. Results of tissue testing are combined with observations of plant vigour and productivity to determine management and input requirements of the farming system. |
| 3. Select and implement allowable techniques and inputs to optimise soil fertility | 3.1. Range of allowable inputs is identified according to requirements of the National Standard for Organic and Biodynamic Produce.<br>3.2. Cultural practices to enhance nutrient cycling are identified and implemented.<br>3.3. Appropriate inputs are calculated, based on soil/plant analyses, crop removal and plant/animal observations.<br>3.4. Cover crop and pasture systems are selected and managed.<br>3.5. Mulching and composting systems are developed, applied and monitored. |


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| ELEMENT | PERFORMANCE CRITERIA |
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| | 3.6. Rotations to optimise soil fertility are designed and implemented.<br>3.7. Cultural practices to enhance soil fertility are selected and implemented. |

# Required Skills and Knowledge

| REQUIRED SKILLS AND KNOWLEDGE |
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| This section describes the skills and knowledge required for this unit. |
| **Required skills** |
| • applying organic soil improvements, such as compost<br>• assessing biodiversity and plant health through observation of plant community<br>• observing animal health and relating it to plant and soil nutrient status<br>• operating equipment safely<br>• sampling soil and plant tissues<br>• use literacy skills to read, interpret and follow organisational policies and procedures, develop sequenced written instructions, record accurately and legibly information collected and select and apply procedures to a range of tasks<br>• use oral communication skills/language competence to fulfil the job role as specified by the organisation including questioning, active listening, asking for clarification, negotiating solutions and responding to a range of views<br>• use numeracy skills to estimate, calculate and record routine and more complex workplace measures and data<br>• use interpersonal skills to work with others and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities. |
| **Required knowledge** |
| • availability, use and definition of organic fertilisers<br>• structural properties of soils<br>• factors contributing to soil acidity, sodicity and salinity<br>• factors promoting soil and plant water-holding capacity<br>• importance of soil biological activity<br>• major nutrient elements and their role in plant growth<br>• methods and inputs that can be used to correct imbalances and maintain soil fertility<br>• principles of organic agriculture<br>• processes and practices that impact on soil structure, biological activity, |


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| REQUIRED SKILLS AND KNOWLEDGE |
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| water-holding capacity and weed patterns<br>• processes of aggregate and colloid formation<br>• range of soil analyses available and principles of each<br>• relationship between soil structure, water holding capacity and nutrient availability<br>• role of organic matter, humus and micro-organisms<br>• role of livestock in enhancing soil fertility<br>• role of macro and micro-elements in soil and plants<br>• role of weeds<br>• significance of levels and balance of soil fertility indicators<br>• soil food chains and food webs<br>• soil textural types and determinants<br>• when and how to take soil samples to test for indicators of soil fertility<br>• principles, practices and inputs allowable under the National Standard for Organic and Biodynamic Produce. |


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# Evidence Guide

| **EVIDENCE GUIDE** | |
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| The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package. | |
| **Overview of assessment** | |
| **Critical aspects for assessment and evidence required to demonstrate competency in this unit** | The evidence required to demonstrate competency in this unit must be relevant to workplace operations and satisfy holistically all of the requirements of the performance criteria and required skills and knowledge and include achievement of the following:<br>• understand and apply principles of organic agriculture<br>• understand and apply knowledge of interrelationships between soil fertility, animals, plants, pests and diseases<br>• devise and implement a soil improvement plan to correct imbalances and maintain soil fertility<br>• analyse soil test results for a range of indicators of soil fertility<br>• work with natural processes and allowable inputs to improve and maintain soil fertility. |
| **Context of and specific resources for assessment** | Competency requires the application of work practices under work conditions. Selection and use of resources for some worksites may differ due to the regional or enterprise circumstances. |

# Range Statement

| **RANGE STATEMENT** | |
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| The range statement relates to the unit of competency as a whole. | |
| Organic may include: | • the application of practices that emphasise the use of renewable resources<br>• conservation of energy, soil and water<br>• recognition of livestock welfare needs<br>• environmental maintenance and enhancement, while producing optimum quantities of produce |


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| RANGE STATEMENT | |
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| | without the use of artificial fertiliser or synthetic chemicals. |

## Unit Sector(s)

| Unit sector | Organic production |
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## Co-requisite units

| Co-requisite units | | |
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## Competency field

| Competency field | |
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