



Australian Government

AHCPCM406 Develop a soil health and plant nutrition program

Release: 1

AHCPCM406 Develop a soil health and plant nutrition program

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to develop, document and monitor a soil health and plant nutrition program.

The unit applies to individuals who apply specialist skills and knowledge to developing a soil health and plant nutrition program. This includes applying and communicating non-routine technical solutions to predictable and unpredictable problems.

All work is carried out to comply with workplace procedures, health and safety in the workplace requirements, legislative and regulatory requirements, and sustainability and biosecurity practices.

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

Pre-requisite Unit

Nil

Unit Sector

Plant Culture and Management (PCM)

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. Determine relevant regional data and site characteristics	1.1 Define goals and target site for assessment and development of program 1.2 Access and review site and climate data, and environmental context information 1.3 Determine appropriate soil, plant and water tests, according to

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	plant species, climatic conditions and prevailing growth media 1.4 Develop a soil, plant and water testing program that defines sampling, field testing, off-site analysis activities, task responsibilities, involvement of contractors, scheduling and desired information outcomes 1.5 Implement and monitor soil, plant and water testing tasks and liaison procedures with outside testing agencies, and take remedial action where necessary 1.6 Compile and present data and readings 1.7 Determine seasonal variations and requirements from published data on species, historical records and own experience 1.8 Determine characteristics, condition and nutritional status of soils and plant species by analysing collected data and comparing to accepted standards
2. Define the requirements for a plant nutrition program	2.1 Identify nutritional requirements of the plant during the growing cycle and growing conditions, using published data on species, historical records and own experience 2.2 Develop program to achieve appropriate soil conditions and nutrient availability for plant growth 2.3 Determine soil amendments, management practices and fertiliser requirements 2.4 Identify and cost resources, tools, equipment and machinery required for program, and confirm availability with suppliers, contractors and appropriate personnel 2.5 Determine cost-effective approach to soil management, soil amendment and provision of plant nutrients 2.6 Identify hazards and assess risks associated with program, and develop and document control measures to manage risks according to workplace health and safety procedures 2.7 Identify and document environmental implications of program, and implement suitable controls
3. Document the soil health and plant nutrition program and specifications	3.1 Establish a detailed soil health and plant nutrition plan, objectives, specifications and associated costs based on program requirements 3.2 Develop and document detailed on-site procedures and scheduled activities required for program

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
4. Monitor plant growth and evaluate the program	4.1 Communicate soil health and plant nutrition plan, procedures and schedule of activities to staff 4.2 Monitor program implementation and results by testing soil, plants and produce 4.3 Review and refine program to ensure it is responsive to changing conditions 4.4 Identify non-compliance with documented objectives and specifications, and implement remedial actions to alleviate or overcome identified shortcomings in program 4.5 Identify and document remediation action to improve plant nutrition in consultation with management 4.6 Identify and record variances from plan and scheduled activities

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	Identify and interpret information regarding requirements for soil health and plant nutrition program and plan
Oral communication	- Initiate discussions with management, using clear language to discuss program requirements, budget and soil health and plant nutrition plan - Use clear communications with staff to communicate soil health and plant nutrition plan, site procedures and schedule of activities
Numeracy	- Calculate labour, materials, tools and equipment cost - Document soil health and plant nutrition budget

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
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Code and title current version	Code and title previous version	Comments	Equivalence status
AHCPCM406 Develop a soil health and plant nutrition program	AHCPCM402 Develop a soil health and plant nutrition program	Performance criteria clarified Foundation skills added Assessment requirements updated	Equivalent

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 AHPCPM406 Develop a soil health and plant nutrition program

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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 developed a soil health and plant nutrition program on at least one occasion, and has:

- applied relevant workplace health and safety, and environmental and biosecurity legislation, regulations and workplace procedures
- accessed and analysed information on regional site factors
- assessed the physical, chemical and biological characteristics of soils
- assessed the physical, nutritional and health requirements of plants
- developed a soil, plant and water testing program
- researched and analysed findings on plant nutritional requirements, nutrients available from soils and other growth media, and environmental implications of program
- developed a program to achieve appropriate soil conditions and nutrient availability for plant growth, incorporating a soil health and plant nutrition plan
- selected suitable management practices, soil amendments, additives and fertilisers
- negotiated, budgeted and documented soil health and plant nutrition plans
- communicated plans, site procedures and schedules to staff
- monitored soil health and plant nutrition program.

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:

- principles and practices of soil health and plant nutrition, including:
 - characteristics of soil and other growth media types, their uses and additives to enhance available nutrition for specific plants
 - main simple and compound fertiliser products available to workplace, including analysis, solubility, salt index, application rates and costs

- methods of nutrient uptake by plants, and favourable conditions for effective uptake to occur
- nutrients and water required by plants grown within workplace, and effects of nutrient deficiency and toxicity on individual plant species and varieties
- visual and other symptoms of nutrient deficiency and toxicity on individual plant species and varieties
- organic matter, pest and disease, and nutrient interactions in soil and nutrient cycling
- types of relationships between soil and growth media characteristics and availability of nutrients to plants, including macro and micro elements
- types of site evaluation techniques, and methods of sampling and analysing soils and other growth media
- soil amendments commonly required to treat soil problems experienced by the workplace
- workplace health and safety and environmental and biosecurity legislation, regulations and workplace procedures relevant to developing a soil health and plant nutrition program.

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
- resources, equipment and materials:
 - site and climate data, and environmental context information relevant to developing a soil health and plant nutrition program
 - industry publications and internet sources of information relevant to developing a soil health and plant nutrition program
- specifications:
 - workplace health and safety and environmental and biosecurity legislation, regulations and workplace procedures relevant to developing a soil health and plant nutrition program
- relationships:
 - staff, suppliers, contractors, appropriate personnel and management
- 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.

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