



Australian Government

AHCPCM513 Conduct environment and food safety risk assessment of plant nutrition and soil fertility programs

Release: 1

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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 conduct an environment and food safety risk assessment of plant nutrition and soil fertility programs, including maintaining currency, evaluating risks, developing a plant nutrient and soil fertility program, and identifying and communicating best practice.

The unit applies to individuals who apply specialised skills and knowledge to diagnose plant health problems, and take personal responsibility and exercise autonomy in undertaking complex work. They analyse and synthesise information, and analyse, design and communicate solutions to sometimes complex 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. Maintain currency of	1.1 Research and document community, government and agricultural

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environment and food safety information relating to fertilisers and soil ameliorants	industry concerns and legislative requirements relevant to fertiliser and soil ameliorant environmental stewardship, and define initiatives to address them 1.2 Communicate with local organisations to identify and document local information relevant to nutrient management, particularly in a catchment or regional context 1.3 Research and document national and local information and standards relevant to food safety associated with fertiliser and soil ameliorant use 1.4 Research and document information and standards relevant to transporting, handling, storing and applying fertilisers and soil ameliorants
2. Evaluate environmental risks and develop a plant nutrition and soil fertility management program	2.1 Identify and document environmentally significant features of fertiliser, soil ameliorants, soil, landscape and climate that are likely to influence environmental risks associated with plant nutrition and soil fertility programs 2.2 Identify and document agronomic and operational activities associated with fertiliser and soil ameliorant programs and associated environmental risk categories 2.3 Evaluate and prioritise environmental risks and impacts associated with agronomic and operational activities 2.4 Identify and evaluate management options to address environmental risks 2.5 Develop and document a plant nutrition and soil fertility management program, and present to the land owner or manager 2.6 Advise client of management options to address environmental risks, and gain agreement 2.7 Use nutrient management tools in conjunction with land owner or manager to monitor effectiveness of management decisions over time 2.8 Identify opportunities to improve efficiency and effectiveness of plant nutrition and soil fertility program, including use of fertilisers and soil ameliorants, and modify operational and agronomic recommendations accordingly
3. Identify and communicate best practice in transport, handling and storage for	3.1 Identify key environmental product stewardship issues in transport, handling and storage of fertilisers and soil ameliorants relevant to the plant nutrition and soil fertility program, codes of practice and legislation

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
environmental stewardship to land owner or manager	3.2 Develop and document a key environmental stewardship issues report, and present to the land owner or manager

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 environment and food safety relating to fertilisers and soil ameliorants requirements, and developing a plant nutrition and soil fertility management program
Oral communication	Initiate discussions with local organisations, client, land owner or management using clear language to discuss information relating to nutrient management options to address environmental risks, gain agreement and present reports
Numeracy	- Access and analyse published data for input to plant nutrition and soil fertility management program, and key environmental stewardship issues report - Calculate areas, ratios, proportions and application rates - Estimate treatment and product quantities

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHPCPM513 Conduct environment and food safety risk assessment of plant nutrition and soil fertility programs	AHPCPM505 Conduct environment and food safety risk assessment of plant nutrition and soil fertility programs	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 AHCPCM513 Conduct environment and food safety risk assessment of plant nutrition and soil fertility programs

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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 conducted environment and food safety risk assessments of plant nutrition and soil fertility programs on at least one occasion, and has:

- applied relevant workplace health and safety and environmental and biosecurity legislation, regulations and workplace procedures
- researched, identified and documented community, government and agricultural industry information, concerns and requirements in relation to fertiliser and soil ameliorant use and environmental stewardship
- researched, identified and documented information and standards relating to transporting, handling, storing and applying fertilisers and soil ameliorants
- identified and evaluated probability and severity of identified environmental risks associated with plant nutrition and soil fertility programs
- liaised with managers and landowners, and local and national organisations
- developed a plant nutrition and soil fertility management program, and key environmental stewardship issues report
- monitored effectiveness of plant nutrition and soil fertility management decisions over time
- identified opportunities to improve efficiency and effectiveness of plant nutrition and soil fertility 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:

- workplace health and safety and environmental and biosecurity legislation, regulations and workplace procedures relevant to conducting environment and food safety risk assessment of plant nutrition and soil fertility programs

- principles and practices of food safety risk assessment, including:
 - environmental implications of soil amendment and fertiliser use, which may include nutrient mining, run-off, nutrient loading of soil and water, toxicity, noise and dust
 - food safety issues relating to the use of fertilisers and soil ameliorants
 - law of the minimum, and importance of nutrient interactions
 - methods and pathways of nutrient uptake by plants, and loss from soil
 - nutrient cycling and its practical relevance to specific plants and soils encountered in local area, including role of soil biology
 - nutrients required by plants grown within workplace, and effects of nutrient deficiency and toxicity on individual plant species and varieties
 - relationship between soil characteristics and the availability of nutrients, including macro and micro elements, to plants
 - single nutrient and complete fertiliser products encountered in local area, including physical attributes, nutrient analysis, solubility, salt index, application rates and costs, and appropriate application techniques and equipment
 - soil amendments commonly used to treat local soil problems
 - soil and water sampling techniques to adapt activities and instructions to a range of environmental contexts
 - techniques for interpreting laboratory results and making fertiliser and amendment recommendations
 - techniques to assess effects of fertiliser and amendment recommendations on soil, plants and water.

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:
 - published local information relevant to nutrient management
- specifications:
 - workplace health and safety and environmental and biosecurity legislation, regulations and workplace procedures relevant to conducting environment and food safety risk assessment of plant nutrition and soil fertility programs
 - legislation and standards relevant to fertiliser and soil ameliorant transportation, handling, storage, application and environmental stewardship
 - national and local information and standards relevant to food safety associated with fertiliser and soil ameliorant
- relationships:
 - land owner or manager, client and local organisations
- 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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