



Australian Government

Department of Education, Employment and Workplace Relations

AHCPCM301A Implement a plant nutrition program

Release: 1

AHPCPM301A Implement a plant nutrition program

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit covers the process of implementing a plant nutrition program in the horticultural or agricultural industry and defines the standard required to: recognise a range of common causes of nutrient deficiency; prepare fertilizers and other products for application to plants; apply fertilizers and other products; clean up and maintain tools and equipment; record work activities according to enterprise guidelines.
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Application of the Unit

Application of the unit	This unit applies to the process of monitoring and controlling the nutritional requirements of and applications to plants in the horticulture industries across a range of situations and environments including amenity and natural resource areas. This standard involves working under limited supervision from others, with checking only related to overall progress. Work is undertaken within a program, routines, methods and procedures where some discretion and judgement is required in the selection of equipment and materials, organisation of work, services, actions, and the achievement of outcomes within time and budgetary constraints.
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Licensing/Regulatory Information

Not Applicable

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Not Applicable

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
1. Prepare for implementation of the plant nutrition program	1.1.Goals, target site, soils and plant species and varieties are identified. 1.2.Materials for soil and plant treatments are identified and the storage site or supplier details located. 1.3.Services are located using site plans and in consultation with the supervisor. 1.4.Occupational Health and Safety (OHS) hazards are identified, risks assessed, controls implemented. 1.5.Suitable Personal Protective Equipment (PPE) is selected, used and maintained.
2. Monitor soil pH	2.1.Soil pH in the implementation site is monitored in relation to plant nutrition. 2.2.Products useful in changing soil pH are identified, compared, selected and sourced. 2.3.Product application methods are assessed according to product type and type of growing media.
3. Determine nutritional problems in plants	3.1.Common nutrient deficiency and toxicity problems in plants are identified using visual inspection. 3.2.The supervisor and/or horticulturist are consulted, as required, to determine causes of nutritional or toxicity problems. 3.3.Soil ameliorants to improve soil fertility are identified, compared, selected and sourced.
4. Prepare to use fertilisers	4.1.The fertiliser to be used is selected according to plant species and type of growing media. 4.2.Fertiliser application methods are assessed according to fertiliser type, soils, enterprise work procedures, and in due consideration of the environmental implications. 4.3.Fertilisers are applied according to the plant growing cycle and the enterprise fertiliser calendar.
5. Prepare application equipment	5.1.Tools, equipment and machinery are selected according to enterprise work procedures. 5.2.Pre-operational and safety checks are carried out on tools, equipment and machinery according to manufacturers specifications and documented work procedures. 5.3.Tools, equipment and machinery are calibrated and adjusted according to manufacturer's guidelines.
6. Apply specific products at	6.1.Specific products are selected based on their analysis to meet plant needs according to enterprise

ELEMENT	PERFORMANCE CRITERIA
appropriate rates	<p>work procedures.</p> <p>6.2. Product application rates are calculated to optimise plant benefit and minimise environmental impact according to manufacturer's specifications and enterprise work procedures.</p> <p>6.3. Specific products are applied at the correct rate, timing and method according to the product type and analysis, manufacturers specifications, enterprise work procedures, and in due consideration of the environmental implications.</p> <p>6.4. Product applications are recorded according to enterprise work procedures.</p> <p>6.5. Target plant response to the plant nutrition program, as well as any non-target effects such as environmental impact or pest responses are monitored, documented and reported to the supervisor.</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communicate with work team members, supervisors, contractors and suppliers
- interpret manufacturers and plant nutrition program specifications
- utilise proforma reporting, analysis and work procedure documents
- understand labels and symbols
- estimate treatment and product requirements, material sizes and quantities
- interpret specifications, and calculate areas, ratios, proportions and application rates
- conduct a site hazard identification and risk control assessment
- coordinate own activities with the requirements and schedules of the work group and contractors
- use interpersonal skills to work with and relate to people from a range of cultural, social and religious backgrounds and with a range of physical and mental abilities.

Required knowledge

- botany and plant physiology

REQUIRED SKILLS AND KNOWLEDGE

- the relationship between soil characteristics and the availability of nutrients
- nutrient cycling and its practical relevance to the specific plants and soils
- methods of nutrient uptake by plants
- nutrients required by plants grown within the enterprise and
- the affects of nutrient deficiency and toxicity on individual plant species and varieties
- soil ameliorants commonly required to treat the soil problems experienced by the enterprise
- the main simple and compound fertiliser products available to the enterprise including analysis, solubility, salt index, application rates and costs
- the environmental implications for the external environment of soil ameliorant and fertiliser use.

Evidence Guide

EVIDENCE GUIDE	
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	<p>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:</p> <ul style="list-style-type: none"> • conduct a site hazard identification and risk control assessment • recognise a range of common causes of nutrient deficiency • prepare fertilizers and other products for application to plants • apply fertilizers and other products • clean up and maintain tools and equipment • record work activities according to enterprise guidelines.
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	
The range statement relates to the unit of competency as a whole.	
Plants may include:	<ul style="list-style-type: none"> • all plant species and cultivars.
Fertilisers may include:	<ul style="list-style-type: none"> • products and materials to meet the nutritional requirements of plants, to modify soil pH and soil ameliorants to improve soil fertility.
Fertiliser application methods may include:	<ul style="list-style-type: none"> • banding • broadcasting

RANGE STATEMENT	
	<ul style="list-style-type: none"> • ripping • spraying and fertigation applied directly to the soil or to the plant via foliar sprays.

Unit Sector(s)

Unit sector	Plants
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Co-requisite units

Co-requisite units		

Competency field

Competency field	
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