



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **AHCPHT503A Manage a controlled growing environment**

**Release: 1**

## AHCPT503A Manage a controlled growing environment

### Modification History

Not Applicable

### Unit Descriptor

<b>Unit descriptor</b>	This unit covers the process of managing controlled growing environments, and defines the standard required to: identify the growing requirements of the crop; prepare specifications for controlled growing infrastructure; develop a management plan to cover staff training, budgets, operating procedures and remedial actions; develop environmental monitoring procedures; and evaluate and document the achievements towards management objectives.
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### Application of the Unit

<b>Application of the unit</b>	This unit applies to the management of a horticultural production site consisting of one or several controlled growing environments. The work is usually undertaken without supervision, with only general guidance on progress sought by senior management. Responsibility for the work of others may be involved and team coordination may be required. Management of controlled growing environments requires extensive horticultural knowledge and practical skills, particularly in plant physiology and growth needs, controlled environment systems, monitoring, reporting and forward planning.
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### Licensing/Regulatory Information

Not Applicable

## Pre-Requisites

<b>Prerequisite units</b>		

## Employability Skills Information

<b>Employability skills</b>	This unit contains employability skills.
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## Elements and Performance Criteria Pre-Content

Not Applicable

## Elements and Performance Criteria

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
1. Identify crop requirements	<p>1.1. Crop growth and production requirements are determined according to a documented production plan.</p> <p>1.2. Environmental parameters for optimal growing conditions for the specific crop are researched using available information resources.</p> <p>1.3. Controlled growing environment factors are identified, evaluated and recorded.</p>
2. Determine requirements for controlled growing environment	<p>2.1. Structures, machinery, equipment and resources required to control environmental conditions are identified, costed and availability confirmed.</p> <p>2.2. Occupational Health and Safety (OHS) hazards are identified, risks assessed and controls implemented.</p> <p>2.3. Detrimental environmental impacts associated with the controlled growing environment system are identified and controls sanctioned.</p>
3. Prepare a management plan for controlled growing environment	<p>3.1. Management objectives for controlled growing environment are determined consistent with production plan and market requirements for crop quantity and quality.</p> <p>3.2. A schedule of environmental control procedures is developed according to controlled environment management objectives.</p> <p>3.3. Staff training needs are evaluated in regard to operation and maintenance of environmental control systems, and reported.</p> <p>3.4. A budget supporting the controlled environment management plan is documented and approval sought.</p> <p>3.5. The schedule of environmental control procedures is communicated clearly to staff.</p>
4. Manage controlled growing environment	<p>4.1. Controlled environment indicators and thresholds for remedial action are identified for monitoring according to industry best practice.</p> <p>4.2. Monitoring frequency and schedule is developed according to the requirements of the production plan and communicated clearly to staff.</p> <p>4.3. All monitoring data is recorded, analysed and applied to management of the controlled environment system to ensure optimal plant development.</p> <p>4.4. Remedial action undertaken is documented and</p>

ELEMENT	PERFORMANCE CRITERIA
	<p>reported.</p> <p>4.5. Costs of the controlled growing environment system are monitored against budget.</p> <p>4.6. Budget adjustments are recorded and reported.</p> <p>4.7. Recorded information, budget data and production outputs are evaluated and operational achievements towards management objectives are documented in a report.</p>

## Required Skills and Knowledge

### REQUIRED SKILLS AND KNOWLEDGE

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

#### Required skills

- research information using available technology
- evaluate training needs
- assess risk
- use literacy skills to fulfil job roles as required by the organisation. The level of skill may range from reading and understanding documentation to completion of written reports
- 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
- use numeracy skills to estimate, calculate and record complex workplace measures
- 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

- plant physiology and biochemistry
- techniques and methods of implementing optimal growing conditions for a range of horticultural crops
- controlled environmental conditions in regard to crop plant physiology, growth stages, and product quality and quantity
- quality production methods and techniques for a range of controlled environment plants
- legislation and regulations relating to the controlled environment systems
- market requirements for crop quantity and quality

<b>REQUIRED SKILLS AND KNOWLEDGE</b>
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| <ul style="list-style-type: none"><li>• monitoring, analysis and recording systems</li><li>• staff training requirements.</li></ul> |
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## Evidence Guide

<b>EVIDENCE GUIDE</b>	
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.	
<b>Overview of assessment</b>	
<b>Critical aspects for assessment and evidence required to demonstrate competency in this unit</b>	<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"> <li>• identify the growing requirements of the crop</li> <li>• prepare specifications for controlled growing infrastructure</li> <li>• develop a management plan to cover staff training, budgets, operating procedures and remedial actions</li> <li>• develop environmental monitoring procedures</li> <li>• evaluate and document the achievements towards management objectives.</li> </ul>
<b>Context of and specific resources for assessment</b>	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

<b>RANGE STATEMENT</b>	
The range statement relates to the unit of competency as a whole.	
Plants may include:	<ul style="list-style-type: none"> <li>• flower</li> <li>• foliage crops</li> <li>• oil crops</li> <li>• vegetables</li> <li>• fruit</li> <li>• nuts</li> <li>• mushroom crops</li> <li>• containerised plants</li> <li>• open-rooted grown plants.</li> </ul>

**RANGE STATEMENT**

Growing environment factors may include:	<ul style="list-style-type: none"> <li>• relevant aspects of ambient humidity</li> <li>• light</li> <li>• growing media mean temperature</li> <li>• season and day length</li> <li>• air quality</li> <li>• nutrient and dissolved gas availability</li> <li>• toxicities and deficiencies</li> <li>• weeds</li> <li>• pests</li> <li>• diseases and beneficial organisms</li> <li>• site aspect and slope</li> <li>• natural and artificial water supplies.</li> </ul>
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**Unit Sector(s)**

<b>Unit sector</b>	Production horticulture
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**Co-requisite units**

<b>Co-requisite units</b>		

**Competency field**

<b>Competency field</b>	
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