



Australian Government

AHCHYD401 Establish and monitor hydroponic crops

Release: 1

AHCHYD401 Establish and monitor hydroponic crops

Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 4.0.

Application

This unit of competency describes the skills and knowledge required to establish hydroponic crop nutrient requirements, supervise crop planting activities and monitor nutrient concentrations of hydroponic crops.

The unit applies to individuals who apply specialised skills and knowledge in the establishment and monitoring of hydroponic crops and have the responsibility for the output of others. This includes applying and communicating non-routine technical solutions to predictable and unpredictable problems.

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

Pre-requisite Unit

Nil

Unit Sector

Hydroponics (HYD)

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. Establish hydroponic crop nutrient requirements	1.1 Determine nutrient solution technique according to crop type and workplace procedures 1.2 Determine growing substrate according to crop type and workplace procedures 1.3 Identify nutrient solution according to crop type and workplace procedures

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.4 Document nutrient solution technique, growing substrate and nutrient solution according to workplace procedures
2. Supervise crop planting activities	2.1 Brief planting staff on crop planting requirements 2.2 Monitor staff activities against planting requirements 2.3 Conduct plant health and quality inspection according to industry standards 2.4 Identify a suitable irrigation strategy according to industry standards 2.5 Check adherence to health and safety in the workplace, environmental and biosecurity practices according to workplace procedures 2.6 Document and record planting activities
3. Monitor nutrient concentrations	3.1 Test nutrient solutions using standard industry testing methods 3.2 Analyse nutrient solution test results for plant health purposes 3.3 Adjust nutrient solution to achieve required concentration 3.4 Document solution adjustments according to industry specifications

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	Interpret textual information from a range of sources to identify relevant and key information about workplace operations and products
Oral Communication	Initiate discussions with staff, using clear language to communicate planting requirements, health and safety, and environmental practices
Numeracy	Measure and calculate nutrient solution
Navigate the world of	Recognise and follow workplace requirements, including safety

Skill	Description
work	requirements, associated with own role and area of responsibility • Check self and others adherence to workplace requirements including safety requirements
Get the work done	• Take responsibility for routine decisions about establishing and monitoring hydroponic crops and reflect on outcomes to identify effectiveness of decisions
Interact with others	• Use appropriate language and communication skills to disseminate information within work team

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCHYD401 Establish and monitor hydroponic crops	Not applicable	New unit	No equivalent unit

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 AHCHYD401 Establish and monitor hydroponic crops

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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 established and monitored hydroponic crops on at least one occasion and has:

- documented hydroponic crop establishment and monitoring activities
- conducted plant health and quality inspection
- identified suitable irrigation strategy
- minimised environmental impacts associated with establishing and monitoring hydroponic crops
- followed industry and workplace biosecurity procedures
- applied workplace health and safety requirements
- tested and analysed nutrient solution
- measured and calculated nutrient solution.

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:

- hydroponic crop nutrient solution techniques, including:
 - aeroponics
 - continuous-flow solution culture or nutrient film technique
 - deep water culture
 - drop irrigation
 - ebb and flow
 - fogponics
 - passive sub-irrigation
 - rotary
 - run to waste

- static solution culture
- top-fed deep water culture
- types of hydroponic growing substrates, including:
 - clay aggregate
 - coconut coir
 - perlite
 - rockwool
 - vermiculite
- types of hydroponic nutrient solutions, including:
 - inorganic
 - organic
- plant health and quality inspection techniques
- irrigation strategies applicable to hydroponic crops
- workplace requirements applicable to health and safety in the workplace for establishing and monitoring hydroponic crops
- environmental impacts associated with establishing and monitoring hydroponic crops
- industry and workplace biosecurity procedures
- nutrient solution testing and analysis procedures and equipment, including:
 - colorimeters
 - electrical conductivity meters
 - litmus paper
 - ph indicator strips
 - ph meters
- nutrient solution measuring and calculation procedures, tools and equipment, including:
 - graduated cylinders
 - measuring spoons.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace setting or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - hydroponic crop establishment and monitoring tools, equipment and materials
 - nutrient solution measuring, calculation, testing and analysing tools, equipment and procedures
 - personal protective equipment applicable to establishing and monitoring hydroponic crops
- specifications:
 - workplace requirements applicable to health and safety in the workplace and establishing and monitoring hydroponic crops

- industry and workplace biosecurity procedures applicable to establishing and monitoring hydroponic crops
- relationships:
 - team members
- 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.

Links

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