



Australian Government

AHCHYD501 Develop a plan for a hydroponic system

Release: 1

AHCHYD501 Develop a plan for a hydroponic system

Modification History

Release	TP Version	Comment
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to design a hydroponic system. It applies to those who design systems for hydroponic production of horticultural crops.

It applies to individuals who analyse information and exercise judgement to complete a range of advanced skilled activities and demonstrate deep knowledge in a specific technical area. They have accountability for the work of others and analyse, design and communicate solutions to a range of complex problems. All work is carried out to comply with workplace procedures.

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

Pre-requisite Unit

Nil.

Unit Sector

Hydroponics (HYD)

Elements and Performance Criteria

Element	Performance criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Carry out preliminary research	1.1 Research type of crop to be grown based on sound marketing principles 1.2 Research the growing requirements of the crop based on sound horticultural practices 1.3 Establish the associated risks of growing a particular crop based on sound horticultural practices

Element	Performance criteria
	1.4 Calculate estimated yield and crop turnover time from historical data and research statistics 1.5 Determine quantity of the plants to be grown based on a cost benefit analysis
2. Assess the suitability of a site	2.1 Assess the physical characteristics of the site 2.2 Ascertain and assess the proximity of the site to markets 2.3 Identify legal requirements in relation to the site and the development of a hydroponic farm 2.4 Identify and consider the environmental implications of developing a hydroponic farm on the site
3. Select the required system	3.1 Research main types of hydroponic systems 3.2 Carry out analysis on each type of system for the chosen crops 3.3 Carry out a cost/benefit analysis on each system for each type of crop 3.4 Determine the type of hydroponic system to be installed
4. Design the hydroponic system	4.1 Select and document the water collection and storage system on the plan 4.2 Select the irrigation system and its components according to the required volume of water and flow rate 4.3 Select and document the fertigation system 4.4 Determine the dimensions of the controlled environment structure following full consideration of the relevant factors 4.5 Determine the environmental control system and document specifications on the plan
5. Prepare and document the design	5.1 Develop a design plan 5.2 Determine specifications and detailed costings with the help of experts, if required 5.3 Develop and document detailed production procedures and schedules 5.4 Present documentation to the client for final approval

Foundation Skills

Foundation Skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Unit Mapping Information

This unit is equivalent to AHCHYD501A Develop a plan for a hydroponic system.

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>

Assessment Requirements for AHCHYD501 Develop a plan for a hydroponic system

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Performance Evidence

The candidate must be assessed on their ability to integrate and apply the performance requirements of this unit in a workplace setting. Performance must be demonstrated consistently over time and in a suitable range of contexts.

The candidate must provide evidence that they can:

- research the growing requirements, risks and returns of the proposed crop
- select, design or customise a system for the site and purpose
- survey the site for suitability and environmental impacts, and gain approvals
- develop a design plan
- present a design plan to clients

Knowledge Evidence

The candidate must demonstrate knowledge of:

- principles and practices for developing a hydroponic system plan
- advantages and disadvantages of the different equipment used in hydroponic systems
- environmental implications of the disposal of chemicals or chemical containers and the drainage of high nutrient effluent
- legislation and regulations relating to the establishment of a hydroponic system
- plant growing media choices, their properties and enterprise specifications
- technical requirements and operating parameters of recirculated and non-recirculated systems

Assessment Conditions

Assessors must satisfy current standards for RTOs.

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