

**Modification history**

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

| AHCXXX3XX                | Establish and monitor hydroponic crops   |
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| <b>Application</b>       | <p>This unit of competency describes the skills and knowledge required to establish hydroponic crops, supervise crop planting activities and monitor nutrient concentrations of hydroponic crops.</p> <p>The unit applies to individuals who apply specialised skills and knowledge to 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.</p> <p>No occupational licensing, legislative or certification requirements apply to this unit at the time of publication.</p> |
| <b>Prerequisite Unit</b> | Nil  |
| <b>Unit Sector</b>       | [Sector] ([SEC])   |

| 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 crops                    | 1.1 Determine nutrient solution technique according to crop type and workplace procedures<br>1.2 Determine blocking on substrate according to crop type and workplace procedures<br>1.3 Identify nutrient solution according to crop type and workplace procedures<br>1.4 Document nutrient solution technique, blocking on substrate and nutrient solution according to workplace procedures |
| 2. Supervise crop planting activities            | 2.1 Brief planting staff on crop planting requirements<br>2.2 Monitor planting staff activities<br>2.3 Monitor adherence to health and safety in the workplace and environmental practices according to workplace procedures<br>2.4 Document and record planting activities   |
| 3. Monitor nutrient concentrations               | 2.1 Test nutrient solutions<br>2.2 Analyse nutrient solutions test results<br>2.3 Adjust nutrient solution to achieve required concentration<br>2.4 Document solution adjustments   |

| <b>Foundation Skills</b>   |  |
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| <i>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.</i> |  |
| <b>Skill</b>   | <b>Description</b>   |
| Reading  | <ul style="list-style-type: none"> <li>Interpret textual information from a range of sources to identify relevant and key information about workplace operations and products</li> </ul>   |
| Writing  | <ul style="list-style-type: none"> <li>Document nutrient solution technique, blocking on substrate and nutrient solution</li> <li>Document and record planting activities</li> <li>Document nutrient solution adjustments</li> </ul>   |
| Oral Communication   | <ul style="list-style-type: none"> <li>Initiate discussions with staff, using clear language to communicate planting requirements, health and safety, and environmental practices</li> </ul>   |
| Numeracy   | <ul style="list-style-type: none"> <li>Record and analyse test results</li> <li>Measure nutrient solution</li> </ul>   |
| Navigate the world of work   | <ul style="list-style-type: none"> <li>Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility</li> <li>Monitor self and others adherence to workplace requirements including safety requirements</li> </ul> |
| Get the work done  | <ul style="list-style-type: none"> <li>Take responsibility for routine decisions about establishing and monitoring hydroponic crops and reflect on outcomes to identify effectiveness of decisions</li> </ul>  |
| Interact with others   | <ul style="list-style-type: none"> <li>Use appropriate language and communication skills to disseminate information within work team</li> <li>Provide instruction, supervision and mentoring to the work team</li> </ul>   |

| <b>Unit Mapping Information</b>                                  |  |                 |                           |
|--|--|-----------------|---------------------------|
| <b>Code and title current version</b>                            | <b>Code and title previous version</b> | <b>Comments</b> | <b>Equivalence status</b> |
| AHCXXX4XX<br>Establish and monitor hydroponic crops<br>Release 1 | Not applicable                         | New unit        | No equivalent unit        |

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| <b>Links</b> | Companion Volumes, including Implementation Guides, are available at VETNet:<br><a href="https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72">https://vetnet.education.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72</a> |
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| <b>TITLE</b>  | <b>Assessment requirements for AHCXXX4XX Establish and monitor hydroponic crops</b> |
| <b>Performance Evidence</b>   |   |
| <p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.<br/>                 There must be evidence that the individual has established and monitored hydroponic crops on at least one occasion and has:</p> <ul style="list-style-type: none"> <li>• minimised environmental impacts associated with establishing and monitoring hydroponic crops</li> <li>• followed industry and workplace biosecurity procedures</li> <li>• applied workplace health and safety requirements</li> <li>• tested and analysed nutrient solution</li> <li>• measured nutrient solution</li> <li>• documented hydroponic crop establishment and monitoring activities.</li> </ul>   |   |
| <b>Knowledge Evidence</b>   |   |
| <p>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:</p> <ul style="list-style-type: none"> <li>• workplace requirements applicable to health and safety in the workplace for establishing and monitoring hydroponic crops</li> <li>• hydroponic crop nutrient solution techniques, including:                         <ul style="list-style-type: none"> <li>• aeroponics</li> <li>• deep water culture</li> <li>• continuous-flow solution culture or nutrient film technique</li> <li>• ebb and flow</li> <li>• fogponics</li> <li>• passive sub-irrigation</li> <li>• rotary</li> <li>• run to waste</li> <li>• static solution culture</li> <li>• top-fed deep water culture</li> </ul> </li> <li>• types of hydroponic substrates, including:                         <ul style="list-style-type: none"> <li>• clay aggregate</li> <li>• coconut coir</li> <li>• perlite</li> <li>• rockwool</li> <li>• vermiculite</li> </ul> </li> <li>• types of hydroponic nutrient solutions, including:                         <ul style="list-style-type: none"> <li>• inorganic</li> <li>• organic</li> </ul> </li> <li>• nutrient solution testing and analysis procedures and equipment, including:                         <ul style="list-style-type: none"> <li>• electrical conductivity meters</li> <li>• ph meters</li> <li>• litmus paper</li> <li>• ph indicator strips</li> <li>• colorimeters</li> </ul> </li> <li>• nutrient solution measuring procedures, tools and equipment, including:                         <ul style="list-style-type: none"> <li>• graduated cylinders</li> <li>• measuring spoons</li> </ul> </li> <li>• environmental impacts associated with establishing and monitoring hydroponic crops</li> <li>• industry and workplace biosecurity procedures.</li> </ul> |   |
| <b>Assessment Conditions</b>  |   |
| <p>Assessment of skills must take place under the following conditions:</p> <ul style="list-style-type: none"> <li>• physical conditions:                         <ul style="list-style-type: none"> <li>• a workplace setting or an environment that accurately represents workplace conditions</li> </ul> </li> </ul>   |   |

| <b>Assessment Conditions</b>   |
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| <ul style="list-style-type: none"><li>• resources, equipment and materials:<ul style="list-style-type: none"><li>• hydroponic crop establishment and monitoring tools, equipment and materials</li><li>• nutrient solution measuring, testing and analysing tools, equipment and procedures</li><li>• personal protective equipment applicable to establishing and monitoring hydroponic crops</li></ul></li><li>• specifications:<ul style="list-style-type: none"><li>• workplace requirements applicable to health and safety in the workplace and establishing and monitoring hydroponic crops</li><li>• industry and workplace biosecurity procedures applicable to establishing and monitoring hydroponic crops</li></ul></li><li>• relationships:<ul style="list-style-type: none"><li>• team members</li></ul></li><li>• timeframes:<ul style="list-style-type: none"><li>• according to job requirements.</li></ul></li></ul> <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p> |

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