

**Modification history**

| Release   | Comments   |
|-----------|--|
| Release 2 | This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 4.0. |
| Release 1 | This version released with AHC Agriculture, Horticulture, Conservation and Land Management Training Package Version 1.0. |

| AHCIRG501                | Audit irrigation systems  |
|--------------------------|---|
| <b>Application</b>       | <p>This unit of competency describes the skills and knowledge required to collect and collate data, assess data, compile a system evaluation report and recommend alterations to improve irrigation system performance.</p> <p>The unit applies to individuals who apply specialised skills and knowledge to the audit of irrigation systems, and take personal responsibility and exercise autonomy in undertaking complex work. They analyse and synthesise information and analyse, design and communicate solutions to sometimes complex 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>       | Irrigation (IRG)  |

| 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. Collect and collate all available data                                | 1.1 Collect data on system performance<br>1.2 Collect data on environmental and workplace health and safety issues<br>1.3 Collect data on equipment supply and usage<br>1.4 Collect data on crop production<br>1.5 Collect data on water use and quality<br>1.6 Collect data on climatic trends<br>1.7 Collect data on physical and chemical properties of soil<br>1.8 Collate and record available data using computer software   |
| 2. Assess actual data against benchmarks, specifications and predictions | 2.1 Analyse system performance and compare with system specifications and performance predictions<br>2.2 Analyse supply and stock use and compare with previous and estimated usage and costs<br>2.3 Analyse crop production and compare with previous and predicted production<br>2.4 Analyse water usage and quality and compare with past and predicted usage and quality<br>2.5 Analyse climatic information and compare with predicted trends<br>2.6 Analyse soil properties and compare with previous and predicted properties<br>2.7 Analyse production costs related to irrigation system and compare with previous and predicted costs<br>2.8 Analyse net profits and compare with past and predicted profits |
| 3. Compile a report of system evaluation                                 | 3.1 Examine indicators of good performance<br>3.2 Examine indicators of poor performance<br>3.3 Examine causes of deviations from performance specifications and requirements<br>3.4 Prepare a report that includes discussion of results of data analysis and conclusions reached on irrigation system performance in relation to crop production and business performance  |

| Elements  | Performance Criteria  |
|---|---|
| <i>Elements describe the essential outcomes.</i>            | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>  |
| 4. Recommend alterations to achieve performance improvement | 4.1 Document recommendations to modify or eliminate causes of poor performance, or to enhance current performance<br>4.2 Report audit findings and recommendations to property owner or manager |

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| <b>Foundation Skills</b>   |   |
|--|---|
| <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>Identify and interpret information regarding irrigation system performance and audit requirements</li> </ul>   |
| Writing  | <ul style="list-style-type: none"> <li>Document audit report</li> <li>Document recommendations</li> </ul>   |
| Oral communication   | <ul style="list-style-type: none"> <li>Initiate discussions with property owner or manager, using clear language to communicate audit report findings and recommendations</li> </ul>  |
| Numeracy   | <ul style="list-style-type: none"> <li>Collect, and analyse audit report data</li> <li>Analyse production costs and compare with previous and predicted costs</li> <li>Analyse net profits and compare with past and predicted profits</li> </ul> |
| Navigate the world of work   | <ul style="list-style-type: none"> <li>Identify and describe own workplace requirements, including safety requirements, associated with own role and area of responsibility</li> </ul>  |
| Interact with others   | <ul style="list-style-type: none"> <li>Use appropriate language and communication skills to disseminate information about audit report findings and recommendations</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> |
| AHCIRG501 Audit irrigation systems Release 2 | AHCIRG501 Audit irrigation systems Release 1 | Minor changes to performance criteria and foundation skills | Equivalent unit           |

| <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 AHCIRG501 Audit irrigation systems</b>  |
| <b>Performance Evidence</b>  |  |
| <p>An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.</p> <p>There must be evidence that the individual has audited an irrigation system on at least two occasions and has:</p> <ul style="list-style-type: none"> <li>• analysed and organised data</li> <li>• identified adverse environmental impacts of irrigation system activities and recommended appropriate remedial action</li> <li>• recommended relevant workplace health and safety and environmental procedures</li> <li>• solved performance problems and recommended solutions</li> <li>• used computer software for irrigation auditing.</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>• environmental impacts of irrigation systems using water from any ground or underground source</li> <li>• evaluation procedures</li> <li>• irrigation system performance indicators</li> <li>• relevant workplace health and safety legislation, codes of practice and workplace requirements</li> <li>• statistical data analysis procedures and software.</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> <li>• resources, equipment and materials:             <ul style="list-style-type: none"> <li>• irrigation system performance data related to irrigation system being audited</li> <li>• system specifications and performance prediction information related to irrigation system being audited</li> <li>• computer and statistical data analysis procedures and software</li> </ul> </li> <li>• relationships:             <ul style="list-style-type: none"> <li>• property owner or manager</li> </ul> </li> <li>• timeframes:             <ul style="list-style-type: none"> <li>• according to the 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> |  |
| <b>Links</b>   | <p>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></p> |