



Australian Government

AHCIRG437 Schedule irrigations

Release: 1

AHCIRG437 Schedule irrigations

Modification History

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

Application

This unit of competency describes the skills and knowledge required to monitor water use, apply a measured amount of water, assess efficacy of irrigation and repeat cycles, record irrigation and scheduling parameters, and plan for extremes of weather to determine irrigation scheduling requirements.

The unit applies to individuals who apply specialised skills and knowledge to irrigation scheduling. This includes applying and communicating non-routine technical solutions to predictable and unpredictable problems.

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

Pre-requisite Unit

Nil

Unit Sector

Irrigation (IRG)

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. Monitor crop and plant water use	1.1 Estimate or measure water use from one or more systems 1.2 Accumulate water as a soil water deficit in the root zone
2. Apply a measured amount of water	2.1 Predict a pre-determined deficit using a scheduling system 2.2 Apply irrigation to partly or fully replace the deficit 2.3 Increase water quantities where appropriate to ensure dilution and

Elements	Performance Criteria
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	transport of toxic solutes below the root zone
3. Assess efficacy of irrigation and repeat cycles of irrigation	3.1 Measure effectiveness of irrigation application with in-field equipment 3.2 Adjust estimated soil moisture level in scheduling system to match in-field measurements 3.3 Recalibrate scheduling system where necessary 3.4 Repeat cycles of irrigation until schedule is correctly established
4. Record irrigation and scheduling parameters	4.1 Record each irrigation and significant rainfall event, plus other appropriate parameters used in scheduling system 4.2 Estimate and record drainage amount below root zone at each irrigation 4.3 Record system performance data
5. Plan for extremes of weather	5.1 Modify estimated deficits to cater for prolonged saturation following heavy rainfall 5.2 Alter shift areas, and where applicable, application rates, to suit appropriate irrigation schedules to minimise frost damage where applicable 5.3 Implement strategies involving prioritising of plants and crops and intermittent irrigation at times of extreme heat

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	Identify and interpret information regarding irrigation schedule
Writing	Record scheduling system information for each irrigation, significant rainfall events and other appropriate parameters
Numeracy	- Estimate or measure water use - Record water usage, rainfall event and system performance data
Navigate the world of	Identify and describe own workplace requirements, including

Skill	Description
work	safety requirements, associated with own role and area of responsibility

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCIRG437 Schedule irrigations	AHCIRG408 Schedule irrigations	Performance criteria clarified Foundation skills added Assessment requirements updated	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 AHCIRG437 Schedule irrigations

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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 scheduled irrigation on at least one occasion and has:

- monitored crop and plant water use
- applied a measured amount of water
- assessed the efficacy of irrigation and repeat cycles of irrigation
- used and maintained in-field equipment that monitors the plant environment
- incorporated data from in-field equipment and remote monitoring sources into scheduling systems that compute irrigation requirements
- recorded irrigation and scheduling parameters
- planned for extremes of weather.

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:

- inter-relationship between plant, soil and the environment in the determination of water budgets
- plant and crop response to moisture stress at different stages of growth
- recognition of moisture stress effects on plants, including instances where stress may be required
- physical soil characteristics such as infiltration rate, water holding capacity and wetted volume in the root zone
- water quality monitoring methods and acceptable quality limits
- in-field irrigation reticulation performance and capacity limits
- possible adverse impacts on the crop and environment from inefficient scheduling or unpredictable weather effects
- weather forecasting of extreme weather events such as heat waves, frosts and storms, and appropriate contingency strategy to minimise impacts.

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:
 - irrigation scheduling equipment
 - irrigation in-field measuring equipment and data
- timeframes:
 - according to the job requirements.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

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