



Australian Government

AHCIRG408 Schedule irrigations

Release: 1

AHCIRG408 Schedule irrigations

Modification History

Release Number	TP Version	Comments
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to determine the timing and amount of each irrigation to meet crop or plant needs and environmental requirements.

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

Irrigation (IRG)

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. 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 transport of toxic solutes below the root zone

Element	Performance criteria
3. Assess efficacy of irrigation and repeat cycles of irrigation	3.1 Measure the effectiveness of irrigation application with in-field equipment 3.2 Adjust the estimated soil moisture level in scheduling system to match that measured 3.3 Recalibrate the 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 any prolonged saturation following heavy rainfall 5.2 Alter shift areas, and where applicable, application rates, to suit appropriate irrigation schedules that minimise frost damage 5.3 Implement strategies involving prioritising of plants and crops and intermittent irrigation at times of extreme heat

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 AHCIRG408A Schedule irrigations.

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 AHCIRG408 Schedule irrigations

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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:

- apply a measured amount of water
- assess the efficacy of irrigation and repeat cycles of irrigation
- incorporate data from in-field equipment and remote monitoring sources into scheduling systems that compute irrigation requirement
- monitor crop and plant water use
- plan for extremes of weather
- record irrigation and scheduling parameters
- use and maintain in-field equipment that monitors the plant environment

Knowledge Evidence

The candidate must demonstrate knowledge of:

- in-field irrigation reticulation performance and its capacity limits
- inter-relationship between plant, soil and the aerial environments in the determination of water budgets
- physical soil characteristics such as infiltration rate, water holding capacity and wetted volume in the root zone
- plant and crop response to moisture stress at different stages of growth
- possible adverse impacts on the crop and environment from inefficient scheduling or unpredictable weather effects
- recognition of moisture stress effects (sometimes desired) on plants
- relevant environmental policies and procedures
- water authority standards and procedures
- water quality monitoring methods and acceptable quality limits
- weather forecasting of extreme weather events such as heat waves, frosts and storms, and appropriate contingency tactics to minimise impacts

Assessment Conditions

Assessors must satisfy current standards for RTOs.

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