



Australian Government

AHCIRG344 Implement an irrigation schedule

Release: 1

AHCIRG344 Implement an irrigation schedule

Modification History

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

Application

This unit of competency describes the skills and knowledge required to interpret an irrigation schedule, determine irrigation shifts, implement and monitor an irrigation schedule, and record irrigation information and activities.

The unit applies to individuals who implement an irrigation schedule under broad direction and take responsibility for their own work.

No licensing, legislative or certification requirements 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. Interpret the irrigation schedule	1.1 Confirm activity to be undertaken, including identifying potential hazards and risks and implementing safe working practices to manage risks 1.2 Select required tools and equipment and check for safe operation 1.3 Select, fit and use personal protective equipment applicable to the task 1.4 Access information on plant growing requirements

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.5 Interpret growing season moisture requirements 1.6 Read the predicted seasonal moisture deficit and watering requirements and check with management 1.7 Record parameters for the irrigation system
2. Determine irrigation shifts	2.1 Subdivide irrigated area into units capable of individual irrigation and note area and irrigation equipment characteristics for each 2.2 Define soil irrigation capability for each unit 2.3 Define crop and plant water requirement for each unit 2.4 Combine units requiring similar irrigation into irrigation shifts 2.5 Ensure irrigation shifts do not exceed water delivery capacity of the property irrigation infrastructure 2.6 Determine the water volume required to meet irrigation needs over specified period
3. Implement irrigation schedule	3.1 Coordinate resources and brief personnel to deliver requirements 3.2 Implement watering program
4. Monitor irrigation	4.1 Inspect plants and crops for growth rate and signs of stress 4.2 Record frequency of irrigation 4.3 Measure and record water usage and confirm water allocation is not exceeded for a given period 4.4 Calculate the difference between estimated and actual water use 4.5 Measure water quality 4.6 Assess plant and crop growth and water use efficiency 4.7 Measure soil for readily available water (RAW) 4.8 Record climate and weather conditions 4.9 Adjust watering program in response to rainfall events and changes to evapotranspiration rates
5. Record irrigation information and activities	5.1 Record plant or crop environment data according to workplace recording procedures 5.2 Record water usage 5.3 Record irrigation shifts 5.4 Record system process data

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	Interpret textual information from a range of sources to identify relevant and key information about workplace operations
Oral communication	Initiate discussions with personnel using clear language to communicate irrigation schedule delivery requirements
Navigate the world of work	Recognise and follow workplace requirements, including safety requirements, associated with own role and area of responsibility
Interact with others	Use appropriate language and communication skills to disseminate information about irrigation schedule delivery requirements

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCIRG344 Implement an irrigation schedule	AHCIRG327 Implement an irrigation schedule	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 AHCIRG344 Implement an irrigation schedule

Modification History

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

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 implemented an irrigation schedule on at least one occasion and has:

- applied workplace health and safety requirements
- selected tools and equipment appropriate to the scope of works
- accessed and interpreted the information in an irrigation schedule
- compared plant health and growth to benchmark requirements
- consulted with appropriate senior personnel or consultants
- instructed irrigation system operators
- implemented the irrigation schedule including consideration of:
 - application rates
 - interaction between different irrigation employees or shifts
 - maintenance programs and supplies
 - materials, chemicals, services
 - resources, including operators with appropriate skills
 - timing and length
- liaised with other work areas
- identified irrigation requirements throughout the growing season by monitoring:
 - climatic conditions
 - crop stage and requirements if applicable
 - effective root depth
 - frost risk
 - plant varietal characteristics and requirements
 - signs of plant nutrient deficiencies
 - soil moisture levels
 - soil type and depth
 - symptoms of water stress

- water quality
- water table level
- monitored irrigation activities, including:
 - environmental impact of irrigation activities
 - identified emitter output consistency
 - identified soil moisture content and depth to which water will reach
 - reported and recorded problems and corrective action taken
 - taken corrective action in response to out-of-specification results or non-compliance
- applied sampling techniques
- conducted soil moisture tests
- identified, rectified and reported environmental non-compliance.

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:

- workplace requirements applicable to health and safety in the workplace for implementing an irrigation schedule
- resource requirements and availability
- irrigation strategies
- principles of soil moisture monitoring, including:
 - volumetric soil moisture content
 - percentage compared to soil moisture tension
- consultation requirements and procedures
- effect of irrigation techniques on plant growth
- visual symptoms of plant nutrient deficiencies, water stress and frost
- recording requirements and procedures
- sampling techniques and procedures
- testing techniques and procedures
- interpretation of routine soil moisture tests
- environmental impacts, hazards and controls for irrigation
- water budgeting tools.

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 equipment operation and maintenance manual
 - irrigation equipment

- soil and water sampling equipment
- personal protective equipment applicable to implementing an irrigation schedule
- specifications:
 - work instructions and workplace procedures applicable to implementing an irrigation schedule
 - irrigation technology tools and equipment and procedures
 - workplace requirements applicable to health and safety in the workplace and implementing an irrigation schedule
 - soil and water testing equipment and procedures
 - recording procedures
- relationships:
 - personnel
- timeframes:
 - according to job requirements.

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

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72>