



Australian Government

AHCIRG308 Monitor soils under irrigation

Release: 1

AHCIRG308 Monitor soils under irrigation

Modification History

Release Number	TP Version	Comments
1	AHCv1.0	Initial release

Application

This unit of competency describes the skills and knowledge required to monitor the impact of irrigation on the soil plant growing environment.

It applies to individuals who take responsibility for own work and for the quality of the work of others. They use discretion and judgement in the selection, allocation and use of available resources. 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. Assess the physical properties of an irrigated soil	1.1 Describe the profile of an irrigated soil 1.2 Determine soil texture and structure within the soil layers 1.3 Interpret tests for organic matter level in a soil 1.4 Test for slaking and dispersion in an irrigated soil 1.5 Assess the infiltration rate for an irrigated soil 1.6 Measure soil moisture levels 1.7 Describe the impacts of cultivation and watering practices on the physical properties of a soil

Element	Performance criteria
2. Define soil moisture properties	2.1 Describe soil moisture tension and its role in determining water availability to plants 2.2 Assess the field capacity of an irrigated soil 2.3 Observe the wilting point for a plant species in an irrigated soil 2.4 Calculate the readily available water (RAW) in an irrigated soil
3. Monitor soil chemical properties	3.1 Interpret soil test results for salinity and sodicity levels in an irrigated soil 3.2 Interpret pH tests and the potential impact of pH on soil structure and nutrient availability
4. Assess soil health and plant growth under irrigation	4.1 Assess the risk of erosion in an irrigated soil 4.2 Assess soil biology in an irrigated soil 4.3 Establish the growing requirements for a plant species
5. Implement strategies to optimise the irrigation growing environment for plants	5.1 Carry out soil husbandry practices to reduce risks of compaction and erosion 5.2 Implement and monitor a watering schedule 5.3 Adjust the frequency of watering based on available moisture, soil properties and plant response 5.4 Report soil and plant moisture status and irrigation requirement

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 AHCIRG308A Monitor soils under irrigation.

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 AHCIRG308 Monitor soils under irrigation

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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.

The candidate must provide evidence that they can:

- adjust watering practices to meet plant needs
- apply the results of soil testing to assessing soil properties
- assess the erosion potential of an irrigated soil
- assess the health of an irrigated soil
- calculate moisture holding capacity of plants, including RAW
- conduct soil structure and texture assessment
- use soil moisture monitoring equipment

Knowledge Evidence

The candidate must demonstrate knowledge of:

- adverse environmental impacts of irrigated plant production
- calculations for readily available water
- critical measures for moisture availability
- effect of dispersible soils under irrigation
- field capacity
- interpreting salinity, sodicity and pH tests
- signs moisture stress & nutrient deficiency in plants
- soil biology
- soil moisture definitions and calculations
- soil moisture monitoring procedures
- soil structure and texture
- types of erosion
- wilting point

Assessment Conditions

Assessors must satisfy current standards for RTOs.

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