



Australian Government

AHCBAC413 Plan and implement agricultural crop maintenance

Release: 1

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Modification History

Release	Comments
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 7.0.

Application

This unit of competency describes the skills and knowledge required to assess the condition for a broadacre crop and plan and implement control and maintenance activities.

The unit 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.

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

Pre-requisite Unit

Nil

Unit Sector

Broad Acre Cropping (BAC)

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. Determine condition of agricultural crops	1.1 Measure and assess soil moisture and calculate soil water percentage 1.2 Calculate water requirements from soil analysis data, standing crop, and forecasted weather conditions 1.3 Assess nutrient requirements and availability for crops and identify deficiencies 1.4 Communicate with industry, suppliers and work team to identify

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	factors affecting crop growth and crop load potential 1.5 Identify health and safety hazards, assess risk and develop and implement controls procedures
2. Determine pest control	2.1 Assess evidence of pests and disease and determine control measures 2.2 Locate and identify areas of weed infestation for control or eradication 2.3 Select control methods according to workplace management strategies 2.4 Schedule suitable control methods according to crop production plan 2.5 Maintain records on infestations and treatments used
3. Manage crop health	3.1 Monitor crop to maintain water and nutritional requirements for optimal production 3.2 Implement sustainable land management practices 3.3 Monitor weed and pest levels according to crop production plan 3.4 Assess, document and analyse benefits from soil and plant inputs and treatments 3.5 Monitor and document cropping programs 3.6 Document and record data for continual analysis and effective crop management
4. Review agricultural crop maintenance program	4.1 Collate records of crop maintenance 4.2 Reconcile planned crop maintenance outcomes against targets 4.3 Review and document changes to crop maintenance program, including the role of technology in improving efficiencies for future implementation

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 safety data sheets (SDSs), production plans and analysis results - Identify, collate and analyse historical records and documentation for previous crops to input into maintenance plan
Oral Communication	Use collaborative and inclusive language and techniques including active listening, questioning and reading of verbal and non-verbal signals to convey and clarify procedural information, confirm work team understanding and compliance with specified procedures and eliciting information from specialists and suppliers

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCBA413 Plan and implement agricultural crop maintenance	AHCBA404 Plan and implement agricultural crop maintenance	Edited Application Added new Element Minor changes and consolidation of Performance Criteria for clarity Foundation Skills refined Performance Evidence and Knowledge Evidence updated and terminology updated Amended structure of Assessment Conditions	Not equivalent

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 AHCBAC413 Plan and implement agricultural crop maintenance

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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, on at least one occasion, planned and implemented an agricultural crop maintenance program for a broadacre crop and has:

- reviewed and assessed historical data to input into crop maintenance plan, including:
 - soil health, moisture and nutrition
 - weather conditions
 - crop growth and load potential
 - proximity and history of previous crops
- identified likely threats to crop from pests, weeds and diseases, including recognised damage to crop caused by weeds, pests or diseases
- recognised poor growth and lack of vigour in crop caused by nutrient deficiency
- assessed crop needs, monitored crop and recorded results
- planned and implemented control strategies for the following:
 - nutrient deficiencies
 - disease outbreaks
 - pest and weed infestations
- measured soil moisture and estimated water needs
- applied pesticides or nutrient treatments
- communicated with industry, suppliers and work team
- planned and monitored crop water requirements, including:
 - measure soil moisture and interpreted data
 - determined water requirements from survey advice and weather forecasts
- monitored and assessed maturity of crop
- determined time of harvest with specialist advice
- considered the role of technology in improving efficiencies
- identified hazards, assessed risks and implemented controls

- documented relevant crop management data
- implemented workplace environmental practices.

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:

- crop growth stages and keys
- crop growth requirements compared to soil nutrient status
- soil moisture and management strategies for broadacre crops, including:
 - working with natural rainfall and soil moisture
 - water storages and irrigation practices
 - measuring soil moisture and determining crop moisture requirements
- fertiliser and soil ameliorant types and application times, methods and rates
- factors leading to development of chemical resistance
- principles of precision agriculture and the role of technology in improving efficiencies, including:
 - self-drive, auto steer, global navigation satellite systems (GNSS) and laser technologies
 - digital and remote sensors
 - remote piloted systems
 - controlled traffic farming (CTF) principles and impacts
 - variable rate technology (VRT)
- life-cycles of pest, diseases and weeds
- pests, diseases and weeds control strategies, including:
 - chemical
 - mechanical
 - biological
 - integrated pest and weed management techniques
- workplace health and safety, legislative requirements and workplace policies and procedures, including:
 - safety in the workplace
 - chemical and hazardous substances
 - fire safety
 - personal protection
 - power lines and elevated equipment safety
- environmental protection legislation and codes of practice.

Assessment Conditions

Assessment of the skills in this unit of competency must take place under the following conditions:

- physical conditions:
 - skills must be demonstrated on broadacre farm with an existing crop or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - crop
 - planning and project management tools
 - tools, equipment and machinery
 - personal protective equipment
 - chemicals and consumables for fertilising and treating pasture
- specifications:
 - workplace policies, procedures and processes
 - safety data sheets
 - workplace production plans and specifications
 - legislation and codes of practice relevant to crop production
 - industry standards for crop production
- relationships:
 - work team.

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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