



Australian Government

AHCBAC417 Manage agricultural crop production

Release: 1

AHCBA417 Manage agricultural crop production

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 determine crop requirements, implement a crop growing and maintenance program and harvest an agricultural crop.

The unit applies to individuals who demonstrate deep knowledge in a specific technical area, take personal responsibility and exercise autonomy in undertaking complex work. They organise the work of self and others and analyse, design and communicate solutions to sometimes complex problems.

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 requirements for an agricultural crop establishment program	1.1 Select plant varieties best suited to soil, climate, seasonal conditions and marketing goals 1.2 Determine available soil moisture and water requirement for crop 1.3 Assess available water reserves and develop a water management plan for crop production 1.4 Determine crop nutrient requirements to achieve required yield

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	according to environmental procedures 1.5 Determine fertiliser program from crop nutrient requirements 1.6 Assess technology to ensure most efficient performance of operations 1.7 Identify and maintain budgetary requirements 1.8 Develop a crop establishment program according to crop production plan 1.9 Identify health and safety hazards, assess risk and develop and implement controls procedures
2. Implement crop maintenance	2.1 Implement strategies to reduce or eradicate weed infestation 2.2 Apply fertilisers at rates specified in fertiliser program 2.3 Monitor soil moisture and implement water management plan to maintain crop 2.4 Determine and implement processes to minimise waste and soil degradation according to environmental management policies
3. Monitor an agricultural crop through to harvest	3.1 Determine trends in weed, pest and disease incidence, and implement control measures 3.2 Monitor soil structure and erosion and implement changes to production practices according to production plan 3.3 Check and maintain irrigation and drainage systems 3.4 Monitor crop maturity and undertake harvesting to meet marketing and production targets
4. Implement the harvest strategy	4.1 Apply pre-harvest pest control treatments conditional on weather according to harvesting plan and environmental procedures 4.2 Ensure required labour and equipment is ready and available at the scheduled place and time 4.3 Communicate crop harvest procedures and performance expectations to harvesting and transport operators 4.4 Implement crop harvest order and procedures as scheduled in harvesting plan 4.5 Monitor harvesting operations and implement contingencies for weather, contracting and equipment maintenance
5. Record production	5.1 Maintain records of crop production according to workplace

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	procedures 5.2 Store records according to workplace requirements

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
Oral Communication	Use collaborative and inclusive techniques including active listening and questioning and reading of verbal and non-verbal signals to convey and clarify work requirements and performance expectations
Numeracy	- Use formula and numerical information to calculate financial data and interpret basic statistical and analytical data - Apply basic financial modelling skills to identify, analyse and evaluate budgetary information, time durations and resource allocations

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
AHCBAC417 Manage agricultural crop production	AHCBAC408 Manage agricultural crop production	Edited Application for clarity Changes to sequencing and editing of Performance Criteria for clarity Foundation Skills refined Performance Evidence and Knowledge Evidence clarified and terminology	Equivalent

Code and title current version	Code and title previous version	Comments	Equivalence status
		updated Amended structure of Assessment Conditions	

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 AHCBA417 Manage agricultural crop production

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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, implemented and monitored the production of a broadacre agricultural crop from planting to harvest and has:

- applied environmental protection strategies for land use
- set objectives and milestones for a cropping program
- determined soil quality and land use capability
- determined crop nutrient requirements and developed and implemented a fertiliser program
- predicted weed infestations and implemented control strategies
- monitored and managed crop water requirements avoiding soil degradation
- demonstrated use of technology to improve efficiency
- prepared budgets for the production cycle
- developed and implemented plans, programs and monitoring procedures for:
 - cropping
 - crop establishment and maintenance
 - harvesting
 - environmental management and minimising waste
- checked and maintained irrigation and drainage systems
- assessed crop yields and evaluated production performance
- implemented workplace health, safety policies
- communicated with harvesting and transport operators on issues related to crop harvest procedures and performance expectations
- monitored and implemented workplace health, safety and environmental policies and procedures
- recorded and stored crop production records.

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:

- agricultural crops and their cultural requirements
- land and soil conditions and assessment, including:
 - soil nutrient and fertility
 - interpretation of soil conditions and analysis
 - crop nutrient requirements
 - impact of soil biology on soil condition and nutrient availability
 - effects of soil characteristics on nutrient availability
 - soil moisture and impact on crop development
- managing water reserves, including:
 - strategies for retaining natural soil moisture
 - irrigation strategies for broadacre crops
 - maintaining reserves of water for irrigation
- 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)
- budgeting and financial analysis techniques, including:
 - basic financial analysis
 - estimating costs
 - importance of financial records
- environmental protection strategies
- pest and weed management and control strategies, including:
 - weeds and infestation patterns and methods of control
 - use of strategic grazing
 - cultural and mechanical controls
 - integrated pest management strategies
- work health and safety legislative requirements, including:
 - safe handling
 - chemical and hazardous substances
 - fire safety
 - personal protection
 - working at heights and confined spaces with storage bins
 - power lines and elevated equipment safety

- environmental legislation and codes of practice, relating to crop production.

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 a broadacre farm suitable for agricultural crop production or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - agricultural crop
 - chemicals and consumables for fertilising and treating crops
- specifications:
 - workplace policies, procedures and processes
 - safety data sheets
 - workplace production plans, specifications and financial budgets
 - legislation and codes of practice relevant to agricultural crop production.
- relationships:
 - harvesting and transport operators
- timelines:
 - specified in schedules.

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

Links

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