

**Modification history**

Release	Comments
Release 2	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version X.0.
Release 1	This version released with AHC Agriculture, Horticulture and Conservation and Land Management Training Package Version 1.0.

AHCBAC408	Manage agricultural crop production
<b>Application</b>	<p>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.</p> <p>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.</p> <p>No licensing, legislative or certification requirements apply to this unit at the time of publication.</p>
<b>Prerequisite Unit</b>	Nil
<b>Unit Sector</b>	Broad Acre Cropping (BAC)

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 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

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
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 procedures

Foundation Skills	
<i>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.</i>	
Skill	Description
Oral Communication	<ul style="list-style-type: none"> <li>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</li> </ul>
Numeracy	<ul style="list-style-type: none"> <li>Use formula and numerical information to calculate financial data and interpret basic statistical and analytical data</li> <li>Apply basic financial modelling skills to identify, analyse and evaluate budgetary information, time durations and resource allocations</li> </ul>

Unit Mapping Information			
Code and title current version	Code and title previous version	Comments	Equivalence status
AHCBA408 Manage agricultural crop production Release 2	AHCBA408 Manage agricultural crop production Release 1	Changes to Application. Changes to sequencing and editing of Performance Criteria. Added Foundation Skills. Updated Performance Evidence, Knowledge Evidence and Assessment Conditions	Equivalent

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

<b>TITLE</b>	<b>Assessment requirements for AHCBAC408 Manage agricultural crop production</b>
--------------	--

**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
- assessed crop yields and evaluated production performance
- implemented workplace health, safety policies in the context of the work team
- monitored and implement workplace health, safety and environmental policies and procedures.

**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 farming technologies for improving efficiencies in broad acre farming, including:
  - self-drive, global positioning systems (GPS) and Laser technologies
  - controlled traffic farming (CTF) principles and impact
  - use of remote piloted systems
  - remote sensing
  - 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

<b>Knowledge Evidence</b>	
<ul style="list-style-type: none"> <li>• chemical and hazardous substances</li> <li>• fire safety</li> <li>• personal protection</li> <li>• environmental legislation and codes of practice, relating to crop production.</li> </ul>	
<b>Assessment Conditions</b>	
<p>Assessment of the skills in this unit of competency must take place under the following conditions:</p> <ul style="list-style-type: none"> <li>• physical conditions: <ul style="list-style-type: none"> <li>• skills must be demonstrated on a broadacre farm suitable for agricultural crop production or an environment that accurately represents workplace conditions</li> </ul> </li> <li>• resources, equipment and materials: <ul style="list-style-type: none"> <li>• agricultural crop</li> <li>• use of tools, equipment and machinery</li> <li>• use of personal protective equipment</li> <li>• use of chemicals and consumables for fertilising and treating crops</li> </ul> </li> <li>• specifications: <ul style="list-style-type: none"> <li>• use of workplace policies, procedures and processes</li> <li>• use of manufacturer's operating instructions for tools, equipment and machinery</li> <li>• access to safety data sheets</li> <li>• use of workplace production plans, specifications and financial budgets</li> <li>• access to legislation and codes of practice relevant to agricultural crop production.</li> </ul> </li> <li>• relationships: <ul style="list-style-type: none"> <li>• work team and/or contractors</li> </ul> </li> <li>• timelines: <ul style="list-style-type: none"> <li>• specified in schedules.</li> </ul> </li> </ul> <p>Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.</p>	
<b>Links</b>	Companion Volumes, including Implementation Guides, are available at VETNet: <a href="https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72">https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=c6399549-9c62-4a5e-bf1a-524b2322cf72</a>