



Australian Government

FBPGRA3023 Operate and monitor grain conditioning

Release: 1

FBPGRA3023 Operate and monitor grain conditioning

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package Version 6.0.

Application

This unit of competency describes the skills and knowledge required to set up, operate, monitor and shut down equipment, to condition grain by adding water at the required parameters to achieve optimum milling results.

This unit applies to individuals who work in a grain processing environment under the direction of the miller or head miller, to produce food or feed. It typically targets the production worker responsible for applying operating principles to the operation and monitoring of grain conditioning equipment and processes.

All work must be carried out to comply with workplace procedures according to state/territory health and safety and food safety regulations, legislation and standards that apply to the workplace.

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

Pre-requisite Unit

Nil

Unit Sector

Grain Processing (GRA)

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. Prepare the grain conditioning equipment and process for operation	1.1 Confirm materials are available to meet product specification requirements 1.2 Conduct pre-start checks according to operator instructions

Elements	Performance Criteria
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
	1.3 Select, fit and use personal protective equipment and clothing as required of workplace procedures 1.4 Identify and confirm work area is clean according to food safety standards, and equipment is not locked out 1.5 Check processing or operating parameters to meet safety requirements
2. Operate and monitor equipment	2.1 Operate the process according to safe work procedures 2.2 Identify any variation in equipment operation, and report to miller 2.3 Take and check samples to ensure conditioned product meets grist moisture specifications, and report any variation 2.4 Identify and report out-of-specification product or process outcomes 2.5 Store conditioned product according to food safety procedures 2.6 Maintain the work area according to safe work and food safety procedures 2.7 Maintain workplace records according to workplace procedures
3. Shut down the process	3.1 Identify the appropriate shutdown procedure 3.2 Shut down the process safely according to operating procedures 3.3 Identify and report maintenance requirements according to workplace procedures 3.4 Ensure waste is disposed of in line with environmental 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
Reading	Interpret grain conditioning requirements
Writing	Record product and processing information using digital and/or paper-based formats

Skill	Description
Numeracy	• Measure product using weight (kg, T) and volume (L, hL), to two decimal points • Calculate water addition to suit machine and grist type • Use percentages (%) as they apply to mixes of grain • Read and interpret measurements on moisture meter • Accurately interpret readings on scales and gauges

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
FBPGRA3023 Operate and monitor grain conditioning	FBPGRA2003 Operate a grain conditioning process	Unit title and code updated to better match work task Minor changes to Performance Criteria to clarify intent Foundation Skills refined Performance Evidence clarified Minor changes to Knowledge Evidence and Assessment Conditions	Equivalent

Links

Companion Volumes, including Implementation Guides, are available at VETNet: -
<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=78b15323-cd38-483e-aad7-1159b570a5c4>

Assessment Requirements for FBPGRA3023 Operate and monitor grain conditioning

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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 operated and monitored a grain conditioning process on at least one occasion, including:

- applying safe work practices
- applying food safety procedures to work practices
- checking moisture content of grist meets product specifications following the miller's instructions
- reporting inconsistencies or variations.

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:

- purpose and basic principles of grain conditioning, and effects on the milling process and the end product:
 - target moisture of grain
 - time grain has been conditioned
- underlying principles to ensure that grain can be effectively milled, good separation of bran from endosperm
- reasons for conditioning grain
- basic operating principles of equipment, including:
 - main equipment components, including settings and the number of steps required to add moisture
 - status and purpose of guards
 - the purpose and location of sensors and related feedback instrumentation
- services required, and action to take if services are not available
- good manufacturing practices (GMP) relevant to work task

- the flow of the grain conditioning and the basic effect of outputs on downstream milling processes
- typical equipment faults and related causes, including:
 - signs and symptoms of faulty equipment
 - early warning signs of potential problems
- methods used to monitor conditioning, including:
 - using online moisture analysis device
 - visually inspecting conditioned grain
 - testing moisture levels
 - checking silo allocations are correct
- typical problems with conditioning grain:
 - high moisture
 - low moisture
 - inconsistent moisture patches through grist
 - inconsistent time for conditioning
 - inconsistent milling results
 - faulty product sensors, solenoids or water flow meters
 - product bridges
 - inconsistent or inadequate water pressure
 - the need for offsets and/or calibration of moisture sensors
 - grain hardness/water hardness
- basic contamination/cross-contamination and food safety risks associated with the conditioning grain, and related control measures
- health and safety hazards and controls
- requirements of different shutdowns as appropriate to the conditioning process and workplace production requirements, including:
 - routine cleaning/conditioning section shutdown
 - unexpected production stop
 - emergency shutdowns
 - procedures to follow in the event of a power outage
- isolation, lock-out and tag-out procedures and responsibilities
- procedures and responsibility for reporting production and performance information
- environmental issues and controls relevant to the conditioning process, including waste and rework collection and handling procedures related to the process
- basic operating principles of process control, where relevant, including the relationship between control panels and systems and the physical equipment
- routine maintenance procedures for grain conditioning equipment
- cleaning and sanitisation procedures for workspace and equipment
- procedures to track traceability of product
- procedures to ensure biosecurity requirements are met.

Assessment Conditions

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

- physical conditions:
 - a grain processing workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - grain conditioning equipment and services
 - personal protective equipment
 - grain for conditioning
- specifications:
 - grain conditioning specification
 - production schedule including target moisture and target conditioning time
 - work procedures, including advice on safe work practices, food safety, quality and environmental requirements
- relationships:
 - supervisor/head miller.

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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