



Australian Government

Department of Education, Employment and Workplace Relations

FDFGR3003A Lead flour milling shift operations

Release 1

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Modification History

Not applicable.

Unit Descriptor

This Unit covers the skills and knowledge required by a miller in the flour milling industry to lead milling operations during a shift including acting as a technical resource to other mill employees.

Application of the Unit

This Unit applies to a miller who is responsible for the flour mill operations during a shift. The Unit provides skills to integrate knowledge of milling materials, equipment, processes, and common milling risks to achieve milling product and performance specifications. The job titles applicable to the Unit may be shift miller or just miller. The Unit applies to the milling of all grains for flour and other milling processed food and non-food products. The Unit covers implementing the mill settings to meet production requirements, supervising of conditioning and grist formulation, and ensuring that quality, Hazard Analysis Critical Control Points (HACCP), dust control, occupational health and safety (OHS) and other risk management procedures are followed by employees during the shift.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Nil.

Employability Skills Information

This Unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a Unit of Competency.

Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Establish shift operating environment	1.1 Identify products and quantities to be produced by mill during shift. 1.2 Identify from authorised suppliers the supplier of grain used during shift and the varieties supplied. 1.3 Apply required costing and control procedures to achieve set key performance indicators (KPIs). 1.4 Establish range of available equipment and any unique design or operating factors. 1.5 Identify staffing and work organisation for shift. 1.6 Identify any budget and/or budget operating procedures relevant for shift operations.
2. Monitor quality during shift	2.1 Identify specifications for flour to be produced during shift. 2.2 Identify performance indicators and production targets for mill and mill departments during shift. 2.3 Supervise testing regime for mill during shift. 2.4 Monitor performance against targets and indicators. 2.5 Report non-conformances and take appropriate corrective actions.
3. Set and supervise grain supply and intake procedures	3.1 Supervise grain receipt operations including compliance with instructions for rejected deliveries. 3.2 Set screening criteria and procedures for re-use of screenings. 3.3 Set blending criteria for holding bins/silos.
4. Set and supervise grain conditioning process and specifications	4.1 Specify and communicate grain cleaning requirements to operators. 4.2 Set water volume for each grain batch. 4.3 Set conditioning time per batch. 4.4 Determine any blending and treatment criteria. 4.5 Monitor tests and specifications for conditioned grain. 4.6 Supervise transfer to storage or mill.
5. Supervise production	5.1 Identify shift production targets. 5.2 Obtain or determine recipes. 5.3 Formulate and supervise preparation of grist. 5.4 Supervise milling of individual grains. 5.5 Set blending requirements including any use of additions and adjuncts. 5.6 Allocate production specifications for shift to departments. 5.7 Ensure production records are kept. 5.8 Monitor production against targets.
6. Integrate maintenance schedule with shift operations	6.1 Identify shift preventative maintenance requirements from maintenance department and/or equipment suppliers. 6.2 Supervise equipment monitoring and maintenance

- responsibilities for operators, maintenance department and other staff.
 - 6.3 Identify and approve timing for any regular maintenance activities that will disrupt production.
 - 6.4 Supervise breakdown notification and repair procedures.
- 7. Implement risk management procedures
 - 7.1 Supervise implementation of OHS and dust control procedures.
 - 7.2 Monitor HACCP procedures during shift.
 - 7.3 Monitor compliance with environmental and sustainability regulations and targets.
 - 7.4 Monitor operations against any required regulatory compliance including required reporting procedures.
- 8. Provide guidance to other mill employees
 - 8.1 Monitor and maintain standard operating procedures.
 - 8.2 Supervise any required training for employees during shift operations.
 - 8.3 Ensure availability of reference materials.
 - 8.4 Implement communication and feedback mechanisms to and from employees.

Required Skills and Knowledge

This section describes the skills and knowledge required for this Unit.

Required skills include:

Ability to:

- identify typical flours including semolina, and other mill products
- identify grain types and main grain varieties
- liaise with other departments on flour product requirements
- calculate:
 - water required to achieve target moisture content
 - extraction rate on:
 - dirty wheat basis
 - clean wheat basis
 - total production basis
 - protein loss for each grist
 - milling gains/losses
- integrate OHS, HACCP and dust control procedures with mill operations
- communicate production requirements and technical information to other employees.

Required knowledge includes:

Knowledge of:

- differences in types of milling processes including differences in milling of different grains, varieties and milling for flour or for semolina
- process and purpose of flour milling including:
 - opening of grain to enable removal of endosperm
 - separation of bran
 - grinding of endosperm to flour
 - sifting of ground stock to:
 - remove oversize endosperm particles
 - remove flour
 - remove any bran and endosperm that has not been ground
 - kibbling
 - middlings and semolina process
- methods used to establish the most economic grist for a particular flour, i.e. the balancing of flour specification, grain availability, cost of grain available etc.
- financial impacts of mill performance/settings
- principles of preventative maintenance including failure mode effects analysis (FMEA)
- food safety, food labelling and other regulations affecting flour mills
- grain varieties and specifications

- flour types and specifications
- food labelling regulations relevant to flour products
- HACCP principles and procedures
- dust control procedures
- OHS standards and requirements
- environmental regulations.

Evidence Guide

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.

Overview of assessment	Assessment must be carried out in a manner that recognises the cultural and literacy requirements of the assessee and is appropriate to the work performed. Competence in this Unit must be achieved in accordance with food safety standards and regulations.
Critical aspects for assessment and evidence required to demonstrate competency in this Unit	Evidence of ability to: • interpret production requirements and grain tests for desirable mill settings • assist employees with conduct and interpretation of grain and flour tests • match grain receival, screening and storage processes to production requirements during shift • prepare or supervise production of grists according to recipes • set and manage milling and blending operations • supervise dust control, HACCP and OHS procedures during shift operations.
Context of and specific resources for assessment	Assessment must occur in a real or simulated workplace where the assessee has access to: • personal protective clothing and equipment • work procedures, including advice on safe work practices, food safety, quality and environmental requirements • equipment manuals including operating parameters • specifications, control points and processing parameters • break and reduction roll process and related equipment and services • conditioned grain suitable for the break and reduction roll process • sampling schedules and test procedures and equipment as required • documentation and recording requirements and procedures • cleaning procedures, materials and equipment as required.

Method of assessment	This Unit should be assessed together with core Units and other Units of Competency relevant to the function or work role. Examples could be: • FDFOP3001A Control contaminants and allergens in the workplace • FDFGR3004A Control mill processes and performance • FDFOP3003A Operate inter related processes in a production system.
Guidance information for assessment	To ensure consistency of performance, competency should be demonstrated on more than one occasion over a period of time in order to cover a variety of circumstances, cases and responsibilities, and where possible, over a number of assessment activities.

Range Statement

The range statement relates to the Unit of Competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Mill	The term mill is used to refer to the whole mill site including the actual milling equipment, equipment used for associated processes, and transport, warehouse, maintenance, testing and administration facilities.
Grain	Grain refers to all edible grains that can be milled for flour, semolina and other grain based food and non-food products. Examples of grains covered by this Unit include wheat, rye, spelt, triticale, oats, corn and barley.
Grist	Grist is a blend that may be made from a single wheat (or other grain) or be produced from a combination of wheats (or other grains).
Mill testing regime	The mill testing regime refers to the determination of: • range of tests required per product • test locations e.g. operator tests, on site laboratory tests and externally conducted tests • test frequency/sampling rate • criteria for acceptance/rejection/re-test • reporting requirements • training required by employees to conduct tests.
Mill performance	Mill performance is the production of the maximum amount of flour to required specifications in the most efficient and profitable way. Indicators of mill performance may include: • mill gain or loss • extraction rate • flour production per shift and other selected periods.
HACCP Plan	The detailed establishment and implementation of a mill HACCP plan is not included in this Unit. However establishing and supervising compliance with the HACCP plan is included.

Production records will usually include:	• capacity per hour or per 24 hours to first break • output per hour of final flour • extraction rate • moisture content of flour/grain • water absorption of flour • protein content of flour • colour grade.
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Unit Sector(s)

Grain processing