



Australian Government

**Assessment Requirements for
FBPGRA4006 Control mill processes and
performance**

Release: 1

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Modification History

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

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 controlled mill processes and performance on at least one occasion, including:

- interpreting mill flow diagrams and production requirements
- identifying customer requirements
- determining correct settings for equipment
- setting and monitoring break and reduction system equipment
- achieving flour specifications through correct use of grist and mill settings
- monitoring equipment settings and performance
- adjusting mill settings for breakdowns and other contingencies
- setting all related processes for:
 - break
 - scratch
 - sizing
 - reduction and other milling
- supervising wheat conditioning
- ensuring settings take into account the capability of equipment and the need to avoid imbalances, product build-ups and chokes
- ensuring all grain and flour tests are carried out to required schedule and procedures
- applying safe work practices and identified work health and safety hazards and controls.

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:

- alternative and historical milling techniques, including:
 - stone grinding

- 'low' or one pass through grinding
- use of small manual or electric milling machines
- semolina process compared with traditional flour milling process
- conventions and techniques in drawing mill flow diagrams
- characteristics of different grist and their milling requirements
- purpose, design and steps of the break process, including:
 - overall aim of removing bran from endosperm in large pieces while minimising bran powder and flour
 - roller design
 - flute design
 - roller speed
 - number of passages
 - destinations of product from each break roll
- purpose, design and principles of the purification process, including:
 - sieve design
 - role of sifting, shaking, gravity and aspiration (upward air)
 - screening decks
 - exhaust ports and chambers
 - collection of throughs
 - overtails
 - relationship of purification to later reduction stages
- scratch equipment and process to remove small pieces of bran and germ from endosperm after sizing or purification
- relationship of particle size to reduction roller efficiency
- reduction that grinds flour into required fineness while controlling damage to starch granules and minimising abrasion to any bran and germ particles present
- features and performance characteristics of milling equipment as specified in manufacturer reference material
- relationship between total dressing surface ratio to mill capacity
- calculation of break roll percentages
- techniques to avoid imbalances, product build-ups and chokes
- mill balance requirements and techniques, including:
 - ensuring that stock does not return to immediate preceding passage or equipment
 - feed to first break at a constant rate
 - evenness of feed into rolls
 - maintenance of conveyor and air settings to achieve constant feed
- calculation of mill performance, including:
 - invisible loss rate
 - theoretical and actual milling loss rate
- procedures to track traceability of product.

Assessment Conditions

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

- physical conditions:
 - a mill or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - personal protective equipment
 - break and reduction roll equipment and related services
 - conditioned grain suitable for the break and reduction roll process
 - sampling schedules and test procedures and equipment
- specifications:
 - 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
 - documentation and recording requirements and procedures.
- relationships:
 - operators/team members.

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

Links

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