



Australian Government

Assessment Requirements for FBPGRA4002 Supervise testing processes for wheat and flour

Release: 1

Assessment Requirements for FBPGRA4002 Supervise testing processes for wheat and flour

Modification History

Release	Comments
Release 1	This version released with FBP Food, Beverage and Pharmaceutical Training Package version 1.0.

Performance Evidence

An individual demonstrating competency must satisfy all of the elements and performance criteria in this unit.

There must be evidence that, on at least one occasion, the individual has:

- identified and interpreted customer requirements
- identified regulatory requirements for mill operation
- identified mill critical control points
- established sampling procedures and tests for grain
- determined sampling procedures and rates for tests
- established procedures for test equipment maintenance and accuracy
- established procedures for storage and labelling of samples
- integrated testing regime with HACCP system
- maintained integrity of mill testing regime through use of control and reference tests and appropriate calibration and maintenance of test equipment
- applied 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:

- effect of reduction and break stages on flour characteristics, including:
 - protein level
 - protein quality
 - ash content
 - colour
 - starch proportion
 - dough rheology
- test and test procedures appropriate to grain, including:

- sample appearance and smell
- sieving for sample purity
- near infrared test (NIR) and other tests for moisture, protein content, colour and grain hardness
- difference between 'as is' and 'dry weight' and moisture corrected moisture results and conversion of other parameters
- gluten washing test for protein quality
- Hagberg Falling Number test, including conversion of results to Perten Liquefaction Numbers
- Kern chondrometer test and other specific weight tests
- tests and test procedures related to flour, including:
 - NIR tests for flour moisture, protein content, colour, water absorption and ash content
 - colour testing using Kent-Jones and Martin flour colour grader
 - Pekar test
 - laboratory sieve tests
 - Brabender Extensograph and Farinograph test for dough stretching
 - viscosity tests
 - starch damage tests
 - Chittick test for carbon dioxide release
 - baking tests
- reference tests used for calibration, including:
 - oven test for moisture
 - Zeleny test for protein quality
 - Single Kernel Characterisation System (SKCS) test
 - Stenvert test for hardness
 - electrophoresis test for variety
 - image analysis for particle size and colour
 - muffle furnace test for ash content
 - fibre tests
- expected extraction rate for different stages of the milling process
- Australian grain characteristics relevant to milling, including:
 - variety
 - wheat segregations, including soft, Australian Premium White (APW), Hard and Prime Hard (PH)
 - other Australian grain segregations
- typical composition of bread, biscuit and cake-making flours, including moisture, sugar, starch, protein, fibre and mineral matter
- flour characteristics giving rise to faults in bread, pasta or other flour based products, including:
 - incorrect flour strength
 - incorrect alpha-amylase activity

- incorrect amount of damaged starch
- bran contamination
- incorrect improver dosage
- heat damaged wheat
- tainted flour
- microbiology tests for grain and flour
- tests used in manufacture of by-products.

Assessment Conditions

Assessment of skills must take place under the following conditions:

- physical conditions:
 - a workplace or an environment that accurately represents workplace conditions
- resources, equipment and materials:
 - personal protective equipment relevant to flour milling operations
 - 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.

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>