

3241 Principles of flour milling and flour types for bakery

SQA Unit Code

H3YD 04

Level 3

SCQF Level 6

SCQF Credit value 6

Unit Summary

This unit is about understanding the milling of wheat and the blending of flour to produce specific flour types for bakery production. Flour types typically include white bread-making flour, wholemeal and malted wheat flours, mixed grain flours and a range of pastry and cake making flours.

You need to understand the structure of the wheat grain and the key stages and functions of the flour milling process. You need to know how blending takes place of both wheat and flours. You also need to know the fractions produced by milling and the critical importance of starch particle size and protein and fibre content.

This unit is for you if you work in food and drink manufacture and/or supply operations and need a broad understanding of flour milling and flour types to support your role.

In order to be assessed as competent you must demonstrate to your assessor that you can consistently perform to the requirements set out below. Your performance evidence must include at least one observation by your assessor.

Evidence of knowledge and understanding should be collected during observation of performance in the workplace. Where it cannot be collected by observing performance, other assessment methods should be used.

You need to know and understand:

1. the structure and physical characteristics of the wheat grain
2. the composition of the wheat grain and of the constituent parts
3. the difference between hard and soft wheat and the types of flour that they will produce
4. what constitutes a strong, medium and weak wheat
5. the blending of wheat grains to produce a grist of the required financial, physical and chemical characteristics for milling
6. how wheat grains are cleaned and washed to remove contaminants
7. how wheat grains are conditioned and why it is important to control moisture content
8. the breaking of the grain using sets of break rolls and sieving or sifting
9. the separation of middlings (endosperm) in purifiers and their treatment through reduction rolls and sifters
10. how the milling operation can be controlled producing flours of varying extraction

rates

11. how the control of milling can produce short to long patent flours and the importance of starch particle size
12. why it is critical to control the amount of starch damaged particles in a flour
13. how protein quality and quantity is important to the breadmaking process
14. what alpha-amylase is and how its activity level in a flour is critical in breadmaking quality
15. how wholemeal and white flour types are blended
16. how malted wheat and mixed grain flour are produced
17. why it is important to store and age flour before use, and the key changes which take place during this time

Evidence of performance may employ examples of the following assessment:

- observation
- written and oral questioning;
- evidence from company systems (e.g. Food Safety Management System)
- reviewing the outcomes of work
- checking any records of documents completed
- checking accounts of work that the candidate or others have written