

3243 Principles of sugars and starches in bakery

SQA Unit Code

H3HY 04

Level 3

SCQF Level 6

SCQF Credit value 6

Unit Summary

This unit is about understanding the sources and extraction methods of sugars and starches, and the use of these ingredients in the bakery. Sugars and starches typically include, white and brown refined sugars (sucrose), glucose, milk powder as a source of lactose, dextrins, cereal flour starches from wheat and maize (corn starch), vegetable starches.

You need to understand the structure of sugars and starches, their purpose and properties. You need to know the functions of sugars and starches in bakery recipes for baking and other functions like that for sugar pastes and marzipans. You also need to know the sources and properties of vegetable gum starches.

This unit is for you if you work in food and drink manufacture and/or supply operations and need a broad understanding of sugars and starches 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 main sources of sugars and starches used in bakery
2. the methods of extracting sugars and starches from sources by; refining, crystallisation and milling
3. the purpose of sugars and starches in bakery products
4. the physical properties of sugars and starches
5. how sugars are chemically structured as monosaccharides and disaccharides
6. how starches are chemically structured as polysaccharides
7. the functional properties of sugars in baking; sugar syrups, fondants, caramels,
8. the functional properties of starches in baking; enzymic breakdown of starch, thickening agent, gelatinisation
9. the composition, properties and uses of glucose, sucrose and lactose
10. the composition, properties and uses of wheat flour starch
11. the composition, properties and uses of corn flour starch

12. sources of vegetable gums used in baking
13. how vegetable gums are sugar and sugar-derived polymers
14. the use of vegetable gums as thickeners, emulsifiers, stabilisers, gel formers in baking

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