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## Overview

This standard covers the skills and knowledge needed for you to produce cultured and fermented products in food and drink manufacture and/or supply operations. Knowing how to produce the correct specification of cultured and fermented products is important to the production of a final product that adheres to regulatory food safety and organisational quality and yield specifications.

The raw material could be from a variety of sources but principally milk and its derivatives such as skim, whey, buttermilk and cream.

You will need to know how to prepare equipment to produce cultured and fermented products and control the cultured and fermented products making process. You must also know how to adhere to regulatory standards and standard operating procedures. You must be able to apply your skills and knowledge within food safety regulations and any relevant international industry codes especially when referring to HACCP, TACCP and VACCP.

This standard is for you if you work in food and drink manufacture and/or supply operations and are involved in producing cultured and fermented products.

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## Performance criteria

### *You must be able to:*

1. prepare to receive product from upstream equipment for efficient production of cultured and fermented products within the relevant manufacturing operation
2. prepare to control cultured and fermented processing equipment and associated compliance documentation
3. Selection of the correct starter culture and the weight/volume.
4. use the correct personal protective equipment
5. check organisational standard operating procedures and product recipes relating to the production of cultured and fermented products
6. check that all necessary plant, equipment, plans for production, ingredients and services are available and fit for use
7. check documentation to ensure plant is ready for use
8. start up and control dairy processing equipment within the limits of your responsibility
9. work at a pace suitable to meet the production plan
10. make adjustments to equipment to maintain organisational product specifications
11. take representative samples for testing adhering to organisational sampling plan within the limits of your responsibility
12. evaluate faults for impact on product and processing equipment operations within the limits of your responsibility
13. make dairy product available to next stage of processing or packaging
14. prepare for changeover of product recipe or packaging in line with organisational requirements
15. prepare to handover process on shift changeover in line with organisational requirements
16. deal with product waste in line with legislation and organisational requirements
17. liaise with relevant personnel to prepare plant for shutdown
18. process and route interphase product
19. establish and maintain effective spoken and written communication with relevant people
  
20. complete the necessary documentation and process to organisational requirements

## Knowledge and understanding

*You need to know and understand:*

1. the food safety aspects of the production of cultured and fermented products including HACCP, TACCP and VACCP
  2. the dairy science underpinning the dairy products which use fermentation as a key part of the production process
  3. the health and safety aspects associated with the process
  4. the function and purpose of ingredients used in the production of fermented dairy products
  5. how cultured and fermented products are classified
  6. the key function and purpose of starter cultures in the production of fermented dairy products
  7. the advantages and disadvantages of common starter cultures used in the production of fermented dairy products
  8. how starter cultures affect the flavour, aroma, acidity of fermented dairy products
  9. the advantages and disadvantages of equipment and processes used in the production of fermented dairy products
  10. how the different types of fermented dairy products vary in their ingredients, recipes, equipment and processing requirements
  11. how the production of liquid and semi-solid fermented dairy products vary in their ingredients, recipes, equipment, processing and packaging
  12. how the production of low fat yoghurt, luxury yoghurt and yoghurt drinks differ in the types of ingredients, recipes, equipment, processing and packaging
  13. what the common faults found in fermented dairy products are and how to deal with them at each stage of manufacture
  14. quality tests associated with cultured and fermented production
  15. the regulatory and organisational requirements relating to the production of fermented dairy products
  16. how to source and select the tools, equipment and ingredients needed to produce fermented dairy products
  17. the personal protective equipment needed to carry out fermented dairy product processing and why it is important to use and wear it
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18. how to maintain communication with relevant people when producing fermented dairy products
  19. the relevant fermented dairy product recipe and organisational

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- equipment standard operating procedures
  - 20. the importance of adhering to recipe requirements and standard operating procedures
  - 21. what the actions are to address variations in intake milk fat levels and environmental factors including seasonality and temperature
  - 22. how to source, select and mix starter cultures in the production of fermented dairy products
  - 23. the organisational requirements for dosing fermented dairy products with starter culture and how to carry this out
  - 24. why and how to control equipment used in fermented dairy product production
  - 25. how to adjust the process controls in response to quality testing, to ensure the fermented dairy product meets organisational final product quality and yield specifications
  - 26. how to deal with ingredients and product that can be re-cycled or reworked
  - 27. the hygienic design of cultured and fermented equipment
  - 28. how to assess cultured and fermented products for quality aspects
  - 29. How the manufacture process and support operations use digital technologies rather than paper based systems to monitor and control production

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