

PROCESS FERMENTED MILK PRODUCTS.

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UNIT DESCRIPTION

This unit specifies the competencies required by a Dairy Plant Technician level 5 to process Fermented Milk Products. It involves producing Yoghurt, Cultured and Kefir milk products.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace functions	These are assessable statements which specify the required level of performance for each of the elements <i>(Bold and italicized terms are elaborated in the range)</i>
1. Produce yoghurt product	1.1 Raw milk sample is collected as per KS ISO 707:2008 Sampling of milk and milk products 1.2 Raw milk quality analysis is carried out in accordance with KS ISO/TC 34/SC 5 milk and milk products 1.3 Yoghurt processing materials and equipment are assembled based on work requirement. 1.4 Yoghurt product making is carried out in accordance with Kenya Standard East Africa Standard (KS EAS) 33-2006, Yoghurt — Specification 1.5 AI is applied in Yoghurt product making as per work place procedure. 1.6 Yoghurt product sample is drawn as per KS ISO 707:2008 Sampling of milk and milk products 1.7 Yoghurt product quality is analysed in accordance with KS ISO/TC 34/SC 5 milk and milk products 1.8 Yoghurt product is packaged in accordance with Kenya East Africa Standard (K EAS) 33-2006, Yoghurt — Specification. 1.9 Yoghurt product is sustainably packaged in accordance to work place procedure 1.10 Yoghurt product is stored in accordance with Kenya East Africa Standard (K EAS) 33-2006, Yoghurt — Specification 1.11 Yoghurt product processing equipment is cleaned as per code of hygienic practice for milk and milk products 1.12 Dairy waste is disposed as per Kenya Standards (KS)1552- 2016 code of Hygienic practice for milk and milk products Sustainable waste disposal 1.13 Dairy waste is sustainably disposed as per work place procedure. 1.14 Yoghurt product production records are updated as per work instruction manual

2. Produce cultured milk product	<p>2.1 Raw milk sample is collected as per Kenya Standard KS ISO 707:2008 Sampling of milk and milk products</p> <p>2.2 <i>Raw milk quality analysis</i> is carried out in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>2.3 <i>Cultured milk product processing materials and equipment</i> are assembled based on work requirement.</p> <p>2.4 Cultured milk product making is carried out in accordance with Kenya East Africa Standard (K EAS) 1008:2021 Fermented (cultured) milk — Specification.</p> <p>2.5 AI is applied in cultured milk product making as per work place procedure.</p> <p>2.6 Cultured milk sample is drawn as per KS ISO 707:2008 Sampling of milk and milk products</p> <p>2.7 Cultured milk quality is analysed in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>2.8 Cultured milk product is packaged in accordance with Kenya East Africa Standard (K EAS) 1008:2021 Fermented (cultured) milk — Specification</p> <p>2.9 Cultured milk product is sustainably packaged as per work place procedure.</p> <p>2.10 Cultured milk product is stored in accordance with Kenya Standard East Africa Standard (KS EAS) 1008:2021 Fermented (cultured) milk — Specification</p> <p>2.11 Cultured milk product processing equipment is cleaned as per code of hygienic practice for milk and milk products</p> <p>2.12 Dairy waste is disposed as per Kenya Standards (KS)1552- 2016 code of Hygienic practice for milk and milk products</p> <p>2.13 Dairy waste is sustainably disposed as per work place procedure.</p> <p>2.14 Cultured milk product production records are updated as per work place manual.</p>
3. Produce kefir product	<p>3.1 Raw milk sample is collected as per KS ISO 707:2008 Sampling of milk and milk products</p> <p>3.2 <i>Raw milk quality analysis</i> is carried out in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>3.3 <i>Kefir product processing materials and equipment</i> are assembled based on work requirement.</p> <p>3.4 Kefir milk product making is carried out in accordance with East Africa Standard (EAS) 1008:2021 Fermented (cultured) milk — Specification.</p> <p>3.5 AI is applied in Kefir milk product making as per work place procedures</p> <p>3.6 Kefir product sample is drawn as per KS ISO 707:2008 Sampling of milk and milk products</p> <p>3.7 Kefir product quality and safety is analysed in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>3.8 Kefir milk product is packaged in accordance with East Africa Standard (EAS) 1008:2021 Fermented (cultured) milk — Specification</p>

	<p>3.9 Kefir milk product is sustainably packaged as per work place procedures.</p> <p>3.10 Kefir milk product is stored in accordance with East Africa Standard (EAS) 1008:2021 Fermented (cultured) milk — Specification</p> <p>3.11 Kefir milk product processing equipment is cleaned as per code of hygienic practice for milk and milk products</p> <p>3.12 Dairy waste is disposed as per Kenya Standards (KS)1552- 2016 code of Hygienic practice for milk and milk products</p> <p>3.13 Dairy waste is sustainably disposed as per work place procedures.</p> <p>3.14 Kefir milk product production records are updated as per work instruction manual</p>
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RANGE

This section provides work environment and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	Range
1. Yoghurt processing materials and equipment may include but are not limited to:	<p><u>Material</u></p> <ul style="list-style-type: none"> • Starter culture • Milk • Thickeners • Sweetener • Emulsifier • Stabilizers • Food colour • Flavours <p><u>Equipment</u></p> <ul style="list-style-type: none"> • Milk pasteurizer • Homogenizer • Fermentation tanks • Thermometers • Cooler
2. Cultured milk product processing materials and equipment may include but are not limited to:	<p><u>Material</u></p> <ul style="list-style-type: none"> • Starter culture • Milk • Thickeners • Sweetener • Emulsifier • Stabilizers

	<ul style="list-style-type: none"> • Food colour • Flavours <p><u>Equipment</u></p> <ul style="list-style-type: none"> • Milk pasteurizer • Homogenizer • Fermentation tanks • Thermometers • Cooler
3. Kefir product processing materials and equipment may include but are not limited to:	<p><u>Material</u></p> <ul style="list-style-type: none"> • Kefir grains • Milk • Thickeners • Sweetener • Emulsifier • Stabilizers • Food colour • Flavours <p><u>Equipment</u></p> <ul style="list-style-type: none"> • Milk pasteurizer • Homogenizer • Fermentation tanks • Thermometers • Cooler

REQUIRED KNOWLEDGE AND SKILLS

This section describes the knowledge and skills required for this unit of competency.

The individual needs to demonstrate knowledge of:

Required knowledge

The individual needs to demonstrate knowledge of:

- Dairy microbiology
- Dairy chemistry
- Milk sampling techniques
- Milk quality testing techniques
- Milk preservation techniques
- Good manufacturing practices
- Code of hygiene
- Legal requirements

- Record keeping
- Dairy waste and management
- Fermented milk technology

Required skills

The individual needs to demonstrate the following skills:

- Communication skills
- Problem solving
- Analytical skills
- Milk handling skills
- Food safety risk assessment
- Fermented equipment handling
- Fermented milk culture handling
- Fermented milk testing skill

EVIDENCE GUIDE

This provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills range.

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <p>1.1 Carried out yoghurt product making in accordance with Kenya Standard East Africa Standard (KS EAS) 33-2006, Yoghurt — Specification</p> <p>1.2 Carried out Cultured milk product making in accordance with Kenya East Africa Standard (K EAS) 1008:2021 Fermented (cultured) milk — Specification</p> <p>1.3 Carried out Kefir milk product making in accordance with East Africa Standard (EAS) 1008:2021 Fermented (cultured) milk — Specification.</p> <p>1.4 Analysed Yoghurt product quality in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>1.5 Analyzed Cultured milk quality in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>1.6 Processing equipment is cleaned as per code of hygienic practice for milk and milk products</p>
2. Resource implications	<p>The following resources should be provided:</p> <p>2.1 Appropriately simulated environment where assessment can take place</p> <p>2.2 Access to relevant work environment</p> <p>2.3 Resources relevant to the proposed activities or tasks</p>

3. Methods of assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Practical assessment 3.2 Oral questioning 3.3 Portfolio of evidence 3.4 Interviews 3.5 Third party report 3.6 Written tests
4. Context of assessment	<p>Competency may be assessed:</p> <ul style="list-style-type: none"> 4.1 Workplace 4.2 Simulated work environment
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.</p>