

PROCESS CHEESE PRODUCTS

UNIT CODE: 0721 451 09A

TVET CDACC UNIT CODE: DA/OS/PM/CR/05/5/MA

UNIT DESCRIPTION

This unit specifies the competencies required by a Dairy Plant Technician level 5 to process Cheese products. It involves producing Cheddar, Gouda Paneer, Mozzarella cheese, Processed and Cream cheese.

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 (Bold and italicized terms are elaborated in the range)
1. Produce cheddar cheese	<ul style="list-style-type: none">1.1 Raw milk sample is collected as per Kenya Standard (KS) ISO 707:2008 Sampling of milk and milk products1.2 Raw milk quality analysis is carried out in accordance with KS ISO/TC 34/SC 5 milk and milk products1.3 Cheddar cheese processing materials and equipment are assembled as per work requirement.1.4 Cheddar cheese making is carried out in accordance with Kenya Standard (KS) 28-1, General standard for cheese.1.5 Cheddar cheese is ripened in accordance with KS 28-1, General standard for cheese.1.6 Cheddar cheese sample is drawn as per KS ISO 707:2008 Sampling of milk and milk products1.7 Cheddar cheese quality is analysed in accordance with KS ISO/TC 34/SC 5 milk and milk products1.8 Cheddar cheese is packaged in accordance with KS 28-1, General standard for cheese.1.9 Cheddar cheese is stored in accordance with KS 28-1, General standard for cheese.1.10 Cheddar cheese processing equipment is cleaned as per code of hygienic practices for milk and milk products1.11 Dairy waste is disposed as per Kenya Standards (KS)1552- 2016 code of Hygienic practice for milk and milk products1.12 Cheddar cheese production records are updated as per work instruction manual
2. Produce gouda cheese	<ul style="list-style-type: none">1.1 Raw milk sample is collected as per KS ISO 707:2008 Sampling of milk and milk products1.2 Raw milk quality analysis is carried out in accordance with KS ISO/TC 34/SC 5 milk and milk products1.3 Gouda cheese processing materials and equipment are assembled based on work requirement.1.4 Gouda cheese making is carried out in accordance with Kenya Standard (KS) 28-1, General standard for cheese.1.5 Gouda cheese is ripened in accordance with KS 28-1, General standard for cheese.

	<p>1.6 Gouda cheese sample is drawn as per KS ISO 707:2008 Sampling of milk and milk products</p> <p>1.7 Gouda cheese quality is analysed in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>1.8 Gouda cheese is packaged in accordance with KS 28-1, General standard for cheese.</p> <p>1.9 Gouda cheese is stored in accordance with KS 28-1, General standard for cheese.</p> <p>1.10 Gouda cheese processing equipment is cleaned as per Kenya Standards (KS)1552- 2016 code of hygienic practice for milk and milk products</p> <p>1.11 Dairy waste is disposed as per KS1552- 2016 code of Hygienic practice for milk and milk products</p> <p>1.12 Gouda cheese production records are updated as per work instruction manual.</p>
3. Produce paneer cheese	<p>1.1 Raw milk sample is collected as per KS ISO 707:2008 Sampling of milk and milk products</p> <p>1.2 Raw milk quality analysis is carried out in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>1.3 Paner cheese processing materials and equipment are assembled based on work requirement.</p> <p>1.4 Paner cheese making is carried out in accordance with Kenya Standard (KS) 28-1, General standard for cheese.</p> <p>1.5 Paner cheese sample is drawn as per KS ISO 707:2008 Sampling of milk and milk products</p> <p>1.6 Paner cheese quality is analysed in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>1.7 Paner cheese is packaged in accordance with (KS) 28-1, General standard for cheese.</p> <p>1.8 Paner cheese is stored in accordance with (KS) 28-1, General standard for cheese.</p> <p>1.9 Processing equipment is cleaned as per code of hygienic practice for milk and milk products</p> <p>1.10 Dairy waste is disposed as per Kenya Standards (KS)1552- 2016 code of Hygienic practice for milk and milk products</p> <p>1.11 Paner cheese production records are updated as work instruction manual.</p>
4. Produce mozzarella cheese	<p>1.1 Raw milk sample is collected as per KS ISO 707:2008 Sampling of milk and milk products</p> <p>1.2 Raw milk quality analysis is carried out in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>1.3 Mozzarella cheese processing materials and equipment are assembled based on work requirement.</p> <p>1.4 Mozzarella cheese making is carried out in accordance with Kenya Standard (KS) 28-1, General standard for cheese.</p> <p>1.5 Mozzarella cheese sample is drawn as per KS ISO 707:2008 Sampling of milk and milk products</p> <p>1.6 Mozzarella cheese quality is analysed in accordance with KS ISO/TC 34/SC 5 milk and milk products</p>

	<p>1.7 Mozzarella cheese is packaged in accordance with (KS) 28-1, General standard for cheese.</p> <p>1.8 Mozzarella cheese is stored in accordance with (KS) 28-1, General standard for cheese.</p> <p>1.9 Mozzarella cheese processing equipment is cleaned as per code of hygienic practice for milk and milk products</p> <p>1.10 Dairy waste is disposed as per Kenya Standards (KS)1552- 2016 code of Hygienic practice for milk and milk products</p> <p>1.11 Mozzarella cheese production records are updated as per work instruction manual.</p>
5. Produce processed cheese	<p>1.1 Processed cheese processing materials and equipment are assembled based on work requirement.</p> <p>1.2 Processed cheese making is carried out in accordance with Kenya Standard (KS) 28-1, General standard for cheese.</p> <p>1.3 Processed cheese sample is drawn as per KS ISO 707:2008 Sampling of milk and milk products</p> <p>1.4 Processed cheese quality is analysed in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>1.5 Processed cheese is packaged in accordance with (KS) 28-1, General standard for cheese.</p> <p>1.6 Processed cheese is stored in accordance with (KS) 28-1, General standard for cheese.</p> <p>1.7 Processing equipment is cleaned as per code of hygienic practice for milk and milk products</p> <p>1.8 Dairy waste is disposed as per Kenya Standards (KS)1552- 2016 code of Hygienic practice for milk and milk products</p> <p>1.9 Processed cheese production records are updated as per work instruction manual.</p>
6. Produce cream cheese	<p>1.1 Processing materials and equipment are assembled based on work requirement.</p> <p>1.2 Cream cheese making is carried out in accordance with Kenya Standard (KS) 28-1, General standard for cheese.</p> <p>1.3 Cream cheese sample is drawn as per KS ISO 707:2008 Sampling of milk and milk products</p> <p>1.4 Cream cheese quality is analysed in accordance with KS ISO/TC 34/SC 5 milk and milk products</p> <p>1.5 Cream cheese is packaged in accordance with (KS) 28-1, General standard for cheese.</p> <p>1.6 Cream cheese is stored in accordance with (KS) 28-1, General standard for cheese.</p> <p>1.7 Processing equipment is cleaned as per code of hygienic practice for milk and milk products</p> <p>1.8 Dairy waste is disposed as per Kenya Standards (KS)1552- 2016 code of Hygienic practice for milk and milk products</p> <p>1.9 Cream cheese production records are updated as per work instruction manual.</p>

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. Cheddar cheese processing materials and equipment may include but are not limited to:	<p>Material</p> <ul style="list-style-type: none"> • Starter culture • Rennet • Food Colour • Salt <p>Equipment</p> <ul style="list-style-type: none"> • Cheese vat • Cheese press • Cheese mould • Knives • Cheese cloth • Miller • pH meter • Thermometer
2. Gouda cheese processing materials and equipment may include but are not limited to:	<p>Material</p> <ul style="list-style-type: none"> • Starter culture • Rennet • Food Colour • Salt <p>Equipment</p> <ul style="list-style-type: none"> • Cheese vat • Cheese press • Cheese mould • Knives • Cheese cloth • Thermometer • pH meter
3. Paneer cheese processing materials and equipment may include but are not limited to:	<p>Material</p> <ul style="list-style-type: none"> • Citric acid • Food Colour • Salt <p>Equipment</p> <ul style="list-style-type: none"> • Cheese vat • Cheese mould • Knives • Cheese cloth • Thermometer • pH meter
4. Mozzarella cheese processing materials and equipment may include but are not limited to:	<p>Material</p> <ul style="list-style-type: none"> • Starter culture • Rennet • Food Colour • Salt

	<p>Equipment</p> <ul style="list-style-type: none"> ● Cheese vat ● Knives ● Stretcher
5. Processed cheese processing materials and equipment may include but are not limited to:	<p>Material</p> <ul style="list-style-type: none"> ● Cheese ● Food Colour ● Food flavours ● Emulsifier ● Stabilizer ● Salt ● Permitted preservative ● Skim milk powder ● Portable water <p>Equipment</p> <ul style="list-style-type: none"> ● Batch pasteurizer ● Cheese mould ● Knives ● Cheese vat

REQUIRED KNOWLEDGE AND SKILLS

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

Required knowledge

- Dairy microbiology
- Dairy chemistry
- Milk sampling techniques
- Milk quality testing techniques
- Good manufacturing practices
- Code of hygiene practices
- Dairy standards
- Record keeping
- Dairy waste and management
- Cheese technology

Required skills

The individual needs to demonstrate the following skills:

- Communication
- Problem solving
- Analytical
- Milk handling
- Cheese equipment handling
- Cheese making

- Milk testing

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> <ol style="list-style-type: none"> 1.1 Carried out Cheddar cheese making in accordance with Kenya Standard (KS) 28-1, General standard for cheese. 1.2 Carried out Gouda cheese making in accordance with Kenya Standard (KS) 28-1, General standard for cheese 1.3 Ripened Cheddar cheese in accordance with KS 28-1, General standard for cheese. 1.4 Ripened Gouda cheese in accordance with KS 28-1, General standard for cheese. 1.5 Carried out Paneer cheese making in accordance with Kenya Standard (KS) 28-1, General standard for cheese. 1.6 Carried out Mozzarella cheese making in accordance with Kenya Standard (KS) 28-1, General standard for cheese. 1.7 Carried out Processed cheese making in accordance with Kenya Standard (KS) 28-1, General standard for cheese. 1.8 Carried out Cream cheese making in accordance with Kenya Standard (KS) 28-1, General standard for cheese. 1.9 Cheese quality is analysed in accordance with KS ISO/TC 34/SC 5 milk and milk products 1.10 Cleaned cheese processing equipment as per code of hygienic practices for milk and milk products
2.Resource implications	<p>The following resources should be provided:</p> <ol style="list-style-type: none"> 2.1 Appropriately simulated environment where assessment can take place 2.2 Access to relevant work environment 2.3 Resources relevant to the proposed activities or tasks
11. Methods of assessment	<p>Competency in this unit may be assessed through:</p> <ol style="list-style-type: none"> 3.1 Practical 3.2 Project 3.3 Portfolio of evidence 3.4 Third party report 3.5 Written tests 3.6 Oral questioning 3.7 Observation
12. Context of assessment	<p>Competency may be assessed:</p> <ol style="list-style-type: none"> 4.1 Workplace 4.2 Simulated workplace

13. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.
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