

## HANDLE RAW MILK

UNIT CODE: 0721 351 01A

TVET CDACC UNIT CODE: DA/OS/PM/CR/01/4/MA

### UNIT DESCRIPTION

This unit specifies the competencies required by a Dairy Plant Technician level 5 to handle raw milk. It involves procuring, grading and preserving raw milk.

### ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace functions	PERFORMANCE CRITERIA 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. Procure raw milk	1.1 Raw milk <b><i>sources</i></b> are identified as per work requirement. 1.2 Cost of raw milk is determined based on prevailing market price. 1.3 <b><i>Raw milk supply agreement</i></b> is prepared based on procurement laws 1.4 Raw milk is delivered in accordance to KS 1552 Code of hygienic practice for milk and milk products
2. Grade raw milk	2.1 <b><i>Grading tools, equipment and materials</i></b> for testing raw milk are assembled according to job requirement. 2.2 Raw milk sample is collected as per KS ISO 707:2008 sampling of milk and milk products 2.3 <b><i>Raw milk quality analysis is carried out</i></b> in accordance KS ISO/TC 34/SC 5 milk and milk products 2.4 Raw milk is received based on Kenya Bureau of standards and dairy industry standards. 2.5 Raw milk quality records are updated based on work procedure. 2.6 Raw milk testing equipment are cleaned in accordance with KS1552-2016 Code of hygienic practice for milk and milk products
3. Preserve raw milk	3.1 Raw milk is weighed in accordance with work procedures 3.2 Raw milk is <b><i>bulk</i></b> ed as per KS1552- 2016 Code of Hygienic practice for milk and milk products 3.3 Raw milk <b><i>cooling parameters</i></b> are set as per the KS1552- 2016 Code of hygienic practice for milk and milk products. 3.4 Raw milk cooling process is carried out as per equipment operational manual. 3.5 Raw milk bulking <b><i>records</i></b> are documented based on work instruction manual 3.6 Raw milk handling equipment are cleaned in accordance with KS1552- 2016 Code of hygienic practice for milk and milk products

## 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. Raw milk sources may include but are not limited to:	<ul style="list-style-type: none"> <li>• Dairy cow</li> <li>• Dairy camel</li> <li>• Dairy goat</li> </ul>
2. Raw milk supply agreement may include but are not limited to:	<ul style="list-style-type: none"> <li>• Quantity</li> <li>• Terms of payment</li> <li>• Delivery methods</li> <li>• Quality</li> <li>• Delivery time</li> <li>• Penalties</li> <li>• Review period</li> </ul>
3. Grading tools, equipment and materials may include but are not limited to:	<p><b><u>Tools and equipment</u></b></p> <ul style="list-style-type: none"> <li>• Alcohol gun</li> <li>• Plunger</li> <li>• Lactometer</li> <li>• Thermometer</li> <li>• Measuring cylinder</li> <li>• Test tubes</li> <li>• Centrifuge</li> <li>• Lovi bond Comparator</li> </ul> <p><b><u>Materials</u></b></p> <ul style="list-style-type: none"> <li>• Ethanol</li> <li>• Resazurin tablets</li> <li>• Antibiotic test kit</li> <li>• Aflatoxin test kit</li> <li>• Indicator</li> <li>• Sodium hydroxide</li> </ul>
4. Raw milk quality analysis may include but are not limited to:	<ul style="list-style-type: none"> <li>• Organoleptic test</li> <li>• Compositional test</li> <li>• Resazurin test</li> <li>• Alcohol test</li> <li>• Lactometer test</li> <li>• Antibiotic test</li> <li>• pH test</li> </ul>
5. Bulked may include but are not limited to:	<ul style="list-style-type: none"> <li>• Vats</li> <li>• Cans</li> <li>• Silo tanks</li> </ul>

6. Cooling parameters may include but are not limited to:	<ul style="list-style-type: none"> <li>• Temperatures &lt; 6 °C</li> <li>• Time</li> <li>• Temperature controls</li> <li>• Agitation</li> </ul>
7. Cooling process is monitored may include but are not limited to:	<ul style="list-style-type: none"> <li>• Cooling time</li> <li>• Agitation</li> <li>• Temperatures</li> </ul>
8. Records may include but are not limited to:	<ul style="list-style-type: none"> <li>• Quantity of raw milk received</li> <li>• Quality parameters</li> <li>• Farmer records</li> </ul>

## REQUIRED KNOWLEDGE AND SKILLS

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

### Required knowledge

The individual needs to demonstrate knowledge of:

- Microbial growth
- Milk composition
- Milk sampling techniques
- Milk quality testing techniques
- Milk preservation techniques
- Good manufacturing practices
- Code of hygiene
- Legal requirements
- Record keeping

### Required skills

The individual needs to demonstrate the following skills:

- Communication skills
- Problem solving
- Analytical skills
- Weighing skills
- Milk handling skills
- Food safety risk assessment
- Milk equipment handling
- Training skills

## 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	<ul style="list-style-type: none"><li>1.1 Received raw milk based on Kenya Bureau of standards and dairy industry standards.</li><li>1.2 Raw milk quality analysis is carried out in accordance KS ISO/TC 34/SC 5 milk and milk products</li><li>1.3 Prepared raw milk supply agreement based on procurement laws</li><li>1.4 Carried out raw milk cooling process as per equipment operational manual.</li><li>1.5 Cleaned raw milk handling equipment in accordance with KS1552- 2016 Code of hygienic practice for milk and milk products</li><li>1.6 Documented raw milk bulking based on work instruction manual</li></ul>
10. Resource implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"><li>2.1. Appropriately simulated environment where assessment can take place</li><li>2.2. Access to relevant work environment</li><li>2.3. Resources relevant to the proposed activities or tasks</li></ul>
3. Methods of assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"><li>3.1. Practical</li><li>3.2. Project</li><li>3.3. Portfolio of evidence</li><li>3.4. Third party report</li><li>3.5. Written tests</li><li>3.6. Oral questioning</li><li>3.7.</li></ul>
4. Context of assessment	<p>Competency may be assessed:</p> <ul style="list-style-type: none"><li>4.1. Workplace</li><li>4.2. Simulated workplace</li></ul>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.</p>