

## PRODUCE LIVESTOCK FEEDS

**UNIT CODE:** 0811 351 01A

**TVET CDACC UNIT CODE:** AGR/OS/AP/CR/01/4/MA

### **UNIT DESCRIPTION**

This unit specifies competencies required to produce livestock feeds. It involves producing livestock forage, conserving livestock forage, and formulating livestock feed rations.

### **ELEMENTS AND PERFORMANCE CRITERIA**

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
These describe the key outcomes which make up workplace function.	<p>These are assessable statements which specify the required level of performance for each of the elements.</p> <p><b><i>Bold and italicized terms are elaborated in the Range.</i></b></p>
1. Produce livestock forage	<p>1.1 <b><i>Tools and equipment</i></b> are assembled as per work requirements</p> <p>1.2 <b><i>Propagation materials</i></b> are sourced as per <b><i>Agro-Ecological Zone</i></b>(AEZ)</p> <p>1.3 Land is prepared as per planting material requirements</p> <p>1.4 Propagation materials are prepared according to <b><i>Good Agricultural Practices</i></b> (GAP)</p> <p>1.5 Propagation materials are established as per good agricultural practices</p> <p>1.6 <b><i>Forages</i></b> are <b><i>managed</i></b> as per good agricultural practices</p> <p>1.7 Forages are harvested as per maturity index and height</p>
2. Conserve livestock forage	<p>2.1 Quality of harvested forages is assessed based livestock production manual</p> <p>2.2 Forages are conserved into silage or hay as per LPM</p> <p>2.3 Conserved forage is stored based on established storage requirements and conditions</p> <p>2.4 Forage production records are generated and disseminated as per the workplace requirements</p> <p>2.5 Waste is managed according to environmental protection regulations</p>

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3. Formulate livestock rations	<p>3.1 Feed formulation tools, equipment and materials are identified and assembled based on feed formulation manual and workplace requirements</p> <p>3.2 <i>Animal feeds ingredients</i> are identified as per animal feeding standard</p> <p>3.3 Animal feeds ingredient are sourced as per type of feed to be formulated and animal nutritional requirements</p> <p>3.4 Ingredient proportions are weighed as per feed formulation formula</p> <p>3.5 Livestock feed rations are formulated using <i>feed formulation methods</i> as per animal feeding standard</p> <p>3.6 Formulated feeds are packaged and labeled as per feed manufacturing guidelines</p> <p>3.7 Packaged feeds are stored as per livestock feed manufacturing guidelines</p> <p>1. Waste is managed according to environmental protection regulations</p>

## RANGE OF VARIABLES

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

RANGE	VARIABLE
1. Tools and equipment may include but are not limited to:	<ul style="list-style-type: none"><li>• Equipment</li><li>• Grass cutters</li><li>• Generator</li><li>• Water pump with hose</li><li>• Tractors (optional)</li><li>• Draft animals</li><li>• Plow and harrow</li><li>• Shovel</li><li>• Hoe</li><li>• Water sprinklers</li><li>• Planter</li><li>• Wheelborrow</li><li>• Hole digger</li><li>• Planting materials</li><li>• Fertilizer (Organic and inorganic)</li><li>• Pesticides</li><li>• Root inoculants</li><li>• Herbicides</li><li>• Fencing materials</li></ul>
2. Propagation materials may include but are not limited to:	<ul style="list-style-type: none"><li>• Seeds, Seedlings</li><li>• Cuttings, Splits and</li><li>• Tubers for propagation</li></ul>
3. Good Agricultural Practices (GAP) includes but not limited	<ul style="list-style-type: none"><li>• Liming</li><li>• Mulching</li></ul>
4. Forages may include but not limited	<ul style="list-style-type: none"><li>• Pastures</li></ul>

RANGE	VARIABLE
to;	<ul style="list-style-type: none"> <li>Fodder crops</li> </ul>
5. Animal feeds ingredients may include but not limited to;	<ul style="list-style-type: none"> <li>Feed additives ,Bran</li> <li>Mineral premixes</li> </ul>
6. Feed formulation methods may include but not limited to;	<ul style="list-style-type: none"> <li>Person square</li> <li>Trial and error</li> <li>Computer method</li> </ul>

## REQUIRED SKILLS AND KNOWLEDGE

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

### Required Skills

The individual needs to demonstrate the following skills:

- Communication skills
- Food safety risk assessment and communication
- Training skills
- Measuring skills
- Agronomic skills
- Communication skills
- Basic mechanical operations
- Maintenance of forage

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### Required knowledge

The individual needs to demonstrate knowledge of:

- Agro ecological zoning
- Types of planting materials
- Primary and secondary cultivation
- Hazard Analysis Critical Control Point (HACCP) process
- Code of hygienic practice (s)
- Risk assessment
- Mycotoxins
- Water quality
- Safe use of pesticides and herbicides

- Code of practice for the animal feed industry
- Principles of forage establishment and management
  - Methods of planting
  - Weeds, pests and diseases control methods
  - Irrigation methods
- Forage harvesting and conservation methods
- Occupational safety and health Act

## **EVIDENCE GUIDE**

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

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Carried out food safety measures to produce forage</li> <li>1.2 Prepared planting land to a level suitable to the planting material</li> <li>1.3 Established forage suitable for the AE zone</li> <li>1.4 Managed and harvested forage according to guidelines in the livestock production manual</li> <li>1.5 Conserved and stored fodder using correct method and procedures</li> <li>1.6 Observed occupational safety and health measures in the working environment</li> <li>1.7 Observed laid down environmental protection measures at the work place</li> <li>1.8 Documented and maintained dairy forage production and food safety records</li> </ul>
2. Resource implication	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Tools, equipment and machineries</li> <li>2.2 Materials and supplies</li> </ul>
3. Method of assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Practical</li> </ul>

	<p>3.2 project</p> <p>3.3 Written tests</p> <p>3.4 Oral questioning</p>
4. Context of assessment	<p>4.1 Competency elements must be assessed in a safe working environment</p> <p>4.2 Assessment may be conducted in a workplace or simulated environment</p>
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.