



REPUBLIC OF KENYA

NATIONAL OCCUPATIONAL STANDARDS

FOR

AGRICULTURE AND EXTENSION TECHNICIAN

LEVEL 5

(CYCLE 3) PROGRAMME CODE: 0811 454A



TVET CDACC
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NAIROBI

PRODUCE FORAGE CROPS

UNIT CODE: 0811 451 15A

TVET CDACC UNIT CODE: AGR/OS/EXT/CR/02/5/MA

UNIT DESCRIPTION

This unit specifies competencies required to produce and conserve forage. It entails; preparation of land for forage growing, establishment and management of forage crops, utilization of forage.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT These describe the key outcomes which make up workplace function .	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. Prepare planting materials	1.1 Personal protective equipment is donned as per work requirement 1.2 Tools and equipment are assembled as per work requirement 1.3 <i>Planting materials</i> are obtained as per crop requirement 1.4 Treatment of planting materials is carried out as per crop requirement
2. Prepare crop seedbed	2.1 Personal protective equipment is donned as per work requirement 2.2 Tools and equipment are assembled as per work requirement 2.3 Land is cleared as per agronomic requirements 2.4 Tillage operations are carried out as per agronomic requirements 2.5 Soil conservation measures are applied as per work procedure 2.6 Records are prepared as per work procedure
3. Plant forage crops	3.1 Personal protective equipment is donned as per work

	<p>requirement</p> <p>3.2 Farm inputs are assembled as per work requirement</p> <p>3.3 Forage crop is established as per crop requirements</p> <p>3.4 Records are prepared as per work procedure</p>
4. Manage forage crops	<p>4.1 Personal protective equipment is donned as per work requirement</p> <p>4.2 Farm inputs are assembled as per work requirement</p> <p>4.3 Field management practices are carried out as per crop agronomic requirements</p> <p>4.4 Records are prepared as per work procedure</p>
5. Harvest forage crops	<p>5.1 Personal protective equipment is donned as per work requirement</p> <p>5.2 Tools and equipment are assembled as per work requirement</p> <p>5.3 Maturity indices are applied in determining crop maturity as per market demand</p> <p>5.4 Harvesting method is applied as per crop requirement</p> <p>5.5 Records are prepared as per work procedure</p>
6. Utilize forage Crop	<p>6.1 Personal protective equipment is donned as per work requirement</p> <p>6.2 Tools, equipment and machines are assembled as per work requirement</p> <p>6.3 Forage crop is conserved as per work requirement</p> <p>6.4 Records prepared as per work procedure</p>

RANGE

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

1. Phytosanitary requirements includes but not limited to:	<ul style="list-style-type: none"> • Use of manures and fertilizers on forage produce • Rules on marketing and labeling of produce • Rules on materials intended to come into contact with forages
2. Planting materials includes but not limited to:	<ul style="list-style-type: none"> • Seeds • seedlings • splits • crowns • slips • Cuttings • Suckers • Tissue culture
3. Field management practices include but are not limited to:	<ul style="list-style-type: none"> • Watering • Mulching • Gapping • Thinning • Crop protection from weeds, pests and diseases • Training • Fertilizer application • Pruning
4. Good Agricultural Practices (GAP) includes but not limited to:	<ul style="list-style-type: none"> • Field hygiene • Selection of clean planting materials • Safe use of agro-chemicals and maximum Residual Levels of agro-chemicals used • Environmental sustainability

<p>5. Forages includes but not limited to:</p>	<ul style="list-style-type: none"> • Nandi setaria • Star grass • Guinea grass • Rye grass • Kale • Sweet potato vines • Lucerne • Desmodium • Clovers • Napier grass • Bana grass. • sesbania • alfalfa • Rhodes • leucaena • oats
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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:

- Tilling
- Measuring
- Leveling
- Gaping
- Spraying
- Pests , diseases and nutrients deficiency scouting
- Equipment calibration
- Technical Report writing

- Produce handling
- Soil sampling
- Observation
- Negotiation
- Digital literacy

Required knowledge

The individual needs to demonstrate knowledge of:

- Sources of quality water
- Agro- Ecological Zonation
- Forage establishment and management
- Types of forages
- Physiology of different forage crops
- Types of tools and equipment used in production of forages
- Soil sampling and testing
- Soil conservation
- Phyto-sanitary requirements
- Good Agricultural Practices
- Sources of quality planting materials for forages
- Husbandry practices in forage production
- Maturity indices in forage crops
- Harvesting and Post Harvesting Handling of forages
- Accounting principles
- Production records and reports
- Waste Management
- Occupational Safety and Health Procedures
- General management of forage production farm

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">1.1 Prepared planting land to a level suitable to the planting material1.2 Observed safety measures by using Personal Protective Equipment (PPE) and correct tools1.3 Established forages suitable for the Agro Ecological zone, market demand1.4 Managed weeds, pests, and diseases in selected forages.Followed required process of producing selected forages1.5 Efficiently used inputs1.6 Utilized and conserved forage efficiently
2. Resource Implications (required for assessment)	<p>The following resources should be provided:</p> <ul style="list-style-type: none">2.1 Appropriately simulated environment where assessment can take place2.2 Access to relevant workplace assessment environment2.3 Resources relevant to the proposed assessment activity or tasks
3. Methods of Assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none">3.1 Practical assessment3.2 Project3.3 Portfolio of evidence3.4 Third party report3.5 Written assessment3.6 Oral assessment
4. Context of Assessment	<p>This competency may be assessed in a workplace or in a simulated workplace.</p>

4 Guidance information for assessment	What can be assessed in holistic assessment (with other units relevant to the industry sector, workplace and job roles) is recommended. Attitude is assessed alongside production of forages.
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