

## ANNUAL CROP PRODUCTION

**UNIT CODE:** 0811 451 10A

**TVET CDACC UNIT CODE:** AGR/CU/EXT/CR/02/4/MA

**UNIT DURATION:** 100 HOURS

### **Relationship to Occupational Standards**

This unit addresses the unit of competency: Produce annual crops

### **Unit Description**

This unit addresses the Unit of Competency produce annual crops: it involves Prepare planting materials, prepare crop seedbed, plant annual crops, harvest annual crop, process annual crops products.

### **Summary of Learning Outcomes**

By the end of this unit, the learner should be able to:

S/No	Learning Outcomes	Duration (Hours)
1.	To prepare planting materials,	10
2.	To prepare crop seedbed	20
3.	To plant annual crops	20
4.	To Manage annual crops	20
5.	To harvest annual crops	10
6.	To process annual crops products.	20
<b>Total</b>		<b>100</b>

### **Learning Outcomes, Content and Suggested Assessment Methods**

Learning	Content	Suggested	Assessment
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<b>Outcomes</b>		<b>Methods</b>
1. Prepare planting materials	<p><b>Theory</b></p> <p>1.1 Prepare planting materials</p> <p>    1.1.1 Definition of terms</p> <p>    1.1.2 Assemble land preparation tools and equipment</p> <p>        1.1.2.1 Axes</p> <p>        1.1.2.2 Panga</p> <p>        1.1.2.3 Rake</p> <p>        1.1.2.4 Slasher</p> <p>        1.1.2.5 Tillage tools/equipment/machinery</p> <p>        1.1.2.6 Fork jembe</p> <p>        1.1.2.7 Harrows</p> <p>        1.1.2.8 Hoe</p> <p>        1.1.2.9 Tractor</p> <p>        1.1.2.10 Equipment</p> <p>        1.1.2.11 Mower</p> <p>        1.1.2.12 Rotavator</p> <p>        1.1.2.13 Wheelbarrow</p> <p>        1.1.2.14 Ridgers</p> <p>        1.1.2.15 Moulboard plough</p> <p>        1.1.2.16 Disc plough</p> <p>        1.1.2.17 Disc harrow</p> <p>1.2 Personal Protective Equipment</p> <p>    1.2.1 Gloves</p> <p>    1.2.2 Helmet</p> <p>    1.2.3 Gumboots</p> <p>    1.2.4 Face mask</p> <p>    1.2.5 Protective googles.</p>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Projects</li> <li>• Interviews/Oral questions</li> <li>• Individual/group assignments</li> <li>• Practicals</li> </ul>

	<p>1.3 Uses of land preparation tools and equipment</p> <p>1.4 Maintenance of land preparation tools and equipment</p> <p>1.5 Obtain planting materials</p> <ul style="list-style-type: none"> <li>1.5.1 Types of planting materials           <ul style="list-style-type: none"> <li>1.5.1.1 Seeds and seedlings</li> <li>1.5.1.2 Splits</li> <li>1.5.1.3 Crowns</li> <li>1.5.1.4 Slips</li> <li>1.5.1.5 Cuttings</li> <li>1.5.1.6 Suckers</li> <li>1.5.1.7 Vines</li> <li>1.5.1.8 Stem tubers</li> </ul> </li> </ul>	
2. Prepare crop seedbed	<p><b>Theory</b></p> <p>2.1 Land clearing</p> <p>2.2 importance of land clearing</p> <p>2.3 methods of land clearing</p> <ul style="list-style-type: none"> <li>2.3.1.1 Manual clearing</li> <li>2.3.1.2 Mechanical clearing</li> <li>2.3.1.3 Controlled burning</li> <li>2.3.1.4 Chemical clearing</li> <li>2.3.1.5 Grubbing</li> <li>2.3.1.6 Grazing</li> </ul> <p>2.4 . Perform tillage operations</p> <ul style="list-style-type: none"> <li>2.4.1 Definition of terms</li> <li>2.4.2 Importance of tillage</li> <li>2.4.3 Types of tillage           <ul style="list-style-type: none"> <li>2.4.3.1 Primary tillage</li> <li>2.4.3.2 Secondary tillage</li> <li>2.4.3.3 Tertiary tillage</li> <li>2.4.3.4 Zero/minimum tillage</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Projects</li> <li>• Interviews/Oral questions</li> <li>• Individual/group assignments</li> <li>• practical</li> </ul>

	<p><b>Practice</b></p> <p>2.5 carry out soil conservation measures</p> <ul style="list-style-type: none"> <li>2.5.1 Contour planting</li> <li>2.5.2 Terraces</li> <li>2.5.3 Gabions</li> <li>2.5.4 Mulching</li> <li>2.5.5 Cover cropping</li> <li>2.5.6 Minimum tillage</li> <li>2.5.7 Crop rotation</li> <li>2.5.8 Intercropping</li> </ul> <p>2.6 carry out tillage operations</p>	
3. Plant Annual crops	<p><b>Theory</b></p> <p>3.1 plant annual crops</p> <p>3.1.1 types of farm inputs</p> <ul style="list-style-type: none"> <li>3.1.1.1 inorganic fertilizers</li> <li>3.1.1.2 Seeds</li> <li>3.1.1.3 Vegetative propagation materials</li> <li>3.1.1.4 Manures</li> </ul> <p>3.2 methods of planting annual crops</p> <ul style="list-style-type: none"> <li>3.2.1 Direct seeding</li> <li>3.2.2 Transplanting</li> <li>3.2.3 Drilling</li> <li>3.2.4 Broadcasting</li> <li>3.2.5 Hill planting</li> <li>3.2.6 Row planting</li> </ul> <p>3.3 advantages and disadvantages of various planting methods</p> <p>3.4 prepare annual crops planting records</p> <p><b>Practice</b></p> <p>3.5 carry out the establishment of annual crops.</p>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Projects</li> <li>• Interviews/ Oral questions</li> <li>• Individual/group assignments</li> <li>• practical</li> </ul>

<p>4. Manage annual crops</p>	<p><b>Theory</b></p> <p>1.1 field management practices in annual crops</p> <p>1.2 importance of field management practices in annual crops</p> <p>1.3 types of field management practices in annual crops</p> <ul style="list-style-type: none"> <li>1.3.1 Mulching</li> <li>1.3.2 Gapping</li> <li>1.3.3 Thinning</li> <li>1.3.4 Training</li> <li>1.3.5 Fertilizer application</li> <li>1.3.6 Pruning</li> <li>1.3.7 Trellising</li> </ul> <p>1.4 prepare annual crops field management records</p> <p><b>Practice</b></p> <p>1.5 Carry out field management practices in annual crops.</p>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Projects</li> <li>• Interviews/Oral questions</li> <li>• Individual/group assignments</li> <li>• Practicals</li> </ul>
<p>5. Harvest Annual crops</p>	<p><b>Theory</b></p> <p>5.1 Harvesting annual crops</p> <ul style="list-style-type: none"> <li>5.1.1 Definition of terms</li> <li>5.1.2 Importance of timely harvesting of annual crops</li> </ul> <p>5.2 Harvesting tools and equipment</p> <ul style="list-style-type: none"> <li>5.2.1 Sickle</li> <li>5.2.2 Combined harvesters</li> <li>5.2.3 Hoes and shovels</li> <li>5.2.4 Harvesting knife</li> <li>5.2.5 Buckets and baskets</li> <li>5.2.6 Pruning shears</li> </ul> <p>5.3 uses of harvesting tools and equipment</p>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Reflection papers</li> <li>• Projects</li> <li>• Interviews/ Oral questions</li> <li>• Workshop reports</li> <li>• Individual/group assignments</li> <li>• Practical</li> </ul>

	<p>in annual crops</p> <p>5.4 maintenance of harvesting tools and equipment in annual crops</p> <p>5.5 maturity indices in annual crops</p> <p>    5.5.1 indices</p> <p>        5.5.1.1 colour</p> <p>        5.5.1.2 texture</p> <p>        5.5.1.3 size and shape</p> <p>        5.5.1.4 firmness</p> <p>5.5.2 importance of maturity indices in annual crops</p> <p>5.6 Methods of harvesting annual crops</p> <p>    5.6.1 Hand picking</p> <p>    5.6.2 Use of tools</p> <p>    5.6.3 Use of machinery</p> <p>5.7 prepare harvesting records</p> <p><b>Practice</b></p> <p>5.8 Carry out harvesting of annual crops</p>	
6. Process annual crops products	<p><b>Theory</b></p> <p>6.1 Process annual crops products</p> <p>    6.1.1 Definition of terms</p> <p>    6.1.2 Importance of processing annual crops products</p> <p>6.2 processing tools and Equipments and machines</p> <p>    6.2.1 Blender</p> <p>    6.2.2 Mortar and pestle</p> <p>    6.2.3 Weighing scale</p> <p>    6.2.4 Knives/cutting materials</p> <p>    6.2.5 Weighing cup</p> <p>    6.2.6 Bowl choppers</p> <p>    6.2.7 Bandsaws</p>	<ul style="list-style-type: none"> <li>• Written tests</li> <li>• Projects</li> <li>• Interviews/ Oral questions</li> <li>• Individual/group assignments</li> <li>• Practicals</li> </ul>

	<p>6.2.8 Slicers</p> <p>6.2.9 Marinating</p> <p>6.2.10 vacuum tumblers</p> <p>6.2.11 Peelers</p> <p>6.3 Uses of processing tools and equipment</p> <p>6.4 Maintenance of processing tools and equipment</p> <p>6.5 Methods of processing annual crops products</p> <ul style="list-style-type: none"> <li>6.5.1.1 harvesting</li> <li>6.5.1.2 threshing</li> <li>6.5.1.3 drying</li> <li>6.5.1.4 cleaning</li> <li>6.5.1.5 milling /grinding</li> </ul> <p>6.6 Distribution of annual crops products</p> <p>6.7 Preparation of annual crops product records</p> <p><b>Practice</b></p> <p>6.8 Carry out processing of annual crops products using various methods</p>	
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### Suggested Methods of Instruction

- Role playing
- Group discussion
- Direct instruction

## Recommended Resources for 25 Trainees

S/No.	Category/Item	Description/Specifications	Quantity	Recommended Ratio (Item: Trainee)
<b>A</b>	<b>Learning Materials</b>			
1.	Journals		5 pcs	1:5
2.	writing materials		50	2:1
3.	Charts		1	1:25
4.	PowerPoint presentations	For trainer's use		
5.	Whiteboard		1	1:25
6.	Assorted color of whiteboard markers	For trainer's use		
7.	Printers		1	1:25
8.	Projector		1	1:25
<b>B</b>	<b>Learning Facilities &amp; infrastructure</b>			
1.	Lecture/theory room		1	1:25
2.	Agriculture lab		1	1:25
<b>C</b>	<b>Tools and Equipment</b>			
1.	Hoe		25	1:1
2.	Machete		25	1:1
3.	Harrows		1	1:25
4.	Subsoilers		1	1:25
5.	Planters		1	1:25