

## PRODUCE HORTICULTURAL CROPS

**UNIT CODE:** AGR/OS/EXT/CR/06/6/A

### UNIT DESCRIPTION

This unit specifies competencies required to produce horticultural crops. It involves determining horticultural crops to produce, procuring horticultural crop planting material, managing horticultural crop nursery, managing horticulture Green Houses, managing drip irrigation system, managing horticultural field and managing horticulture post-harvest.

### ELEMENTS AND PERFORMANCE CRITERIA

<b>ELEMENT</b> These describe the key outcomes which make up workplace function.	<b>PERFORMANCE CRITERIA</b> These are assessable statements which specify the required level of performance for each of the elements. <i><b>Bold and italicized terms are elaborated in the Range.</b></i>
1. Determine horticultural crops to produce	1.1 Soil sampling is undertaken as per required crop. 1.2 <i><b>Horticultural crops</b></i> are selected in accordance with the farm plan, land, Agro Ecological Zone EAZ.
2. Procure Horticultural crop planting material	2.1 <i><b>Sources</b></i> of horticultural crop planting material are identified in accordance with SOPs 2.2 <i><b>Horticultural crop planting materials</b></i> are selected as per type of crop, quality,
3. Manage Horticultural crop nursery	3.1 Nursery site is selected as per quality of soil, availability of fresh water, landscape, accessibility and wind breaks 3.2 Horticultural crop is propagated in accordance with the kind of plant 3.3 <i><b>Horticultural crop nursery layout</b></i> is determined per number of seedlings and production system 3.4 <i><b>Growing media</b></i> is prepared as per GAPs 3.5 Nursery plans are designed as per conveniences in operations 3.6 Horticultural plant nursery area is cleaned in accordance with horticultural 3.7 Horticultural crop production schedule is prepared as per requirements
4. Manage Horticulture Green Houses	4.1 Green house site is selected in accordance with crop variety and value, wind, security and GAP 4.2 Green house structure is designed as per farm plan 4.3 Green house working tools are determined as per GAP 4.4 <i><b>Green house crop</b></i> selection is done in accordance with GAPs 4.5 Green house nursery propagation is undertaken in accordance with GAPs 4.6 Green house field preparation is undertaken in accordance to GAP 4.7 Green house irrigation is carried out as per Operations and Maintenance Manual

	4.8 Greenhouse crop water requirement is maintained as per Crop Water Requirement Manual
5. Establish drip irrigation system	5.1 Drip irrigation is designed as per client specifications 5.2 Lay out of the drip irrigation is set out in accordance with Operations Manual 5.3 Green house crop market is determined as per consumer projected needs 5.4 Drip irrigation is established as per Operations Manual 5.5 Drip irrigation activities are planned, coordinated and controlled as per farm requirements and SOPs 5.6 Drip irrigation system is maintained as per the Operations Manual 5.7 Drip irrigation materials, tools and equipment are used as per Operations Manual activities 5.8 Drip irrigation is monitored and evaluated as per the Operational Manual 5.9 Training programmes are prepared and implemented as per SOPs 5.10 Drip irrigation reports prepared and shared as per SOPs 5.11 Green house crop harvest is timed with peak seasons
6. Manage Horticultural field	6.1 Horticultural farm is established in accordance with Horticultural Crop Production Manual 6.2 <i>Soil nutrition</i> requirement for horticultural crop is determined and enhanced 6.3 Horticultural crops are established as per crop extension hand book 6.4 Horticultural crop husbandry is undertaken as per Crop Extension Manual and GAPs 6.5 Horticultural crop is harvested in accordance with GAPs 6.6 Horticultural crop post harvesting management is undertaken as per Post Harvest Handling Manual
7. Horticulture post-harvest management	7.1 Horticultural crop safety and quality is adhered to as per Post Harvest Manual 7.2 Pest control is undertaken in accordance with Post Harvest Manual 7.3 Horticulture crop storage is undertaken in accordance with Post Harvest Manual 7.4 Marketing opportunities are determined as per farm marketing strategy

### **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.

<b>RANGE</b>	<b>VARIABLE</b>
1. Horticultural crops may include but not limited to:	<ul style="list-style-type: none"> <li>• Fruits</li> <li>• Vegetables</li> <li>• Flowers</li> <li>• Herbs and spices</li> <li>• Nuts</li> </ul>
2. Sources may include but not limited to:	<ul style="list-style-type: none"> <li>• Nurseries</li> <li>• Agro vet –shops</li> </ul>
3. Horticultural crop planting materials may include but not limited to:	<ul style="list-style-type: none"> <li>• Cuttings</li> <li>• Vines</li> <li>• Seeds / seedlings</li> </ul>
4. Horticultural crop nursery lay out may include but not limited to:	<ul style="list-style-type: none"> <li>• Raised beds</li> <li>• Sunken beds</li> <li>• Trays</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:

- Disease and pest scouting
- Recording
- Handling tools and equipment
- Use of PPEs
- Manual dexterity
- Measuring
- Recording
- First aid
- Sourcing
- Disease and pest scouting
- Measuring
- Weeds and weeds control
- Hydroponics
- Budgeting
- General crop production
- Soil sampling
- Planting
- Fertilizer handling

- Calibration of machines and equipment
- Post-harvest technic
- Servicing and maintenance of tools and machines

### **Required knowledge**

The individual needs to demonstrate knowledge of:

- Selection of Horticultural crops
- Soil sampling
- Sources of Horticultural crop planting material
- Nursery selection
- Propagation
- Germination media
- Layout and practices
- Production
- Plant protection
- Environmental protection guidelines
- Disease and pest symptoms and their control
- Green house site selection
- GAPs
- Designing greenhouse structure
- Green house working tools
- Green house nursery
- Green house field preparation
- Green house crop water requirements
- Drip irrigation
- Layout of Drip irrigation
- Establishing green irrigation
- Planning coordinating drip irrigation
- Drip irrigation materials
- Drip irrigation monitoring and evaluation
- Drip irrigations training programme
- Green house crop harvesting
- Soil nutrition
- Methods of manure and fertilizer application
- Basic machine operations
- Crop maturity indices
- Harvesting methods
- Health hygiene safe environment
- Crop safety and quality
- Pest control
- Horticulture crop post-harvest
- Determining marketing strategy

## 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	Assessment requires evidence that the candidate: Demonstrated: 1.1 Understanding of different horticultural crops. 1.2 Understanding of different horticultural planting materials. 1.3 Ability to establish a horticultural crop nursery. 1.4 Ability to manage horticultural crop nursery.
2. Resource Implication	The following resources should be provided: 2.1 Materials, tools and equipment 2.2 Personal protective equipment 2.3 Assessment location
3. Method of assessment	Competency in this unit may be assessed through: 3.1 Projects 3.2 Observation 3.3 Written test 3.4 Third party reports 3.5 Case study
4. Context of assessment	4.1 Competency elements must be assessed in a safe working environment 4.2 Assessment may be conducted in a workplace or simulated environment 4.3 During Industrial attachment
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.