

PRODUCE CUT FLOWERS

ISCED UNIT CODE: 0812 351 09A

TVETCDACC UNIT CODE: HO/OS/HP/CR/04/4/MA

UNIT DESCRIPTION

This unit specifies the competencies required to produce quality and clean-cut flowers. It involves establishing cut flowers nursery, establishing cut flowers, managing cut flowers and performing cut flowers post-harvest practices.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function.	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. Establish cut flowers nursery	1.1 <i>Personal protective equipment's</i> are worn as per work requirement 1.2 <i>Tools, equipment and materials</i> are assembled as per work requirement 1.3 Nursery site is marked based on farm layout 1.4 Nursery site soil sampling is performed as per work procedure 1.5 Propagation media is prepared in accordance with <i>agronomic requirements</i> 1.6 Planting materials are treated based on agronomic requirements. 1.7 Planting materials are raised in nursery as per work procedure. 1.8 <i>Cut flowers nursery management practices</i> are performed as per agronomical requirements.
2. Establish cut flowers	2.1 Personal protective equipment are worn as per work requirement 2.2 Tools, equipment and materials are assembled as per work requirement 2.3 Land clearing is performed as per agronomic requirements

	<p>2.4 Tillage practices are carried out as per agronomic requirements</p> <p>2.5 Soil and water conservation measures are applied as per agronomic needs</p> <p>2.6 Soil amendments are applied as per soil analysis report</p> <p>2.7 Seedlings are transplanted based on agronomic requirements</p>
3. Manage cut flowers	<p>3.1 Tools and equipment for carrying out management practices are assembled as per work requirement</p> <p>3.2 Gapping is carried out as per agronomic requirements</p> <p>3.3 Training and pruning are carried out as per agronomic requirements</p> <p>3.4 Crop protection practices are carried out as per agronomic requirement</p> <p>3.5 Physiological disorders are managed as per agronomic requirement</p> <p>3.6 Fertilizers are applied as per agronomic requirements</p> <p>3.7 Mulching is carried out as per agronomic requirements</p> <p>3.8 Watering is carried out as per agronomic requirements</p> <p>3.9 Cut flowers are harvested as per agronomic requirement</p> <p>3.10 Waste management is undertaken in accordance to work requirement</p>
4. Perform cut flowers post-harvest practices	<p>4.1 Tools and equipment for carrying out post-harvest practices are assembled as per work requirement</p> <p>4.2 Quality and quantity of cut flowers is assessed as per work procedures</p> <p>4.3 Post-harvest practices are carried out in accordance to work requirement</p> <p>4.4 Cut flower marketing techniques are applied as per organizational policy</p> <p>4.5 Waste management is undertaken in accordance to work requirement</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 performance.

Variable	Range
1. Personal protective equipment may include but are not limited to:	<ul style="list-style-type: none">• Gloves• Safety goggles• Safety boots• Overalls• Dust coat• Ear muffs• Face masks
2. Cut flowers may include but are not limited to:	<ul style="list-style-type: none">• Roses• Carnations• Chrysanthemum• Orchids• Alstromeria• Tulips• Marigold• Hibiscus• Gladiolus• Aster
3. Tools, equipment and materials may include but are not limited to:	<ul style="list-style-type: none">• Hoes• Machetes• Secateurs• Shovels• Soil augur• Panga• Pegs• Hammer• Saw• Bucket

- Secateurs
- Shears
- Dibbler
- Pegs
- Spray pumps
- Watering cans
- Hose pipes
- Plough
- Harrows
- Ridges
- Boom sprayer
- Pruning saw
- Wire strainer
- Traps
- Pipe sprinklers
- Scouting flags
- Storage tanks
- Tractors
- Grading shed
- Bud count square
- Meteorological equipment
- Pesticides
- Fertilizers
- Stationery
- Manures
- Planting materials
- Rope
- Nets
- Translucent papers
- Papers
- Fencing wire
- Staking sticks

	<ul style="list-style-type: none"> • Nails • Herbicides • Pesticides • Pheromones • Seeds • seedlings • splits • crowns • slips • Cuttings • Suckers • Plantlets
4. Nursery management practices may include but are not limited to:	<ul style="list-style-type: none"> • Mulching • watering • fertilizer application • weed control • pest control • disease control • shading • hardening off
5. Tillage practices may include but are not limited to:	<ul style="list-style-type: none"> • Primary tillage • Secondary tillage • Tertiary tillage
6. Soil amendments may include but are not limited to:	<ul style="list-style-type: none"> • Agricultural Lime • Agricultural gypsum • Fertilizers
7. Crop protection practices may include but are not limited to:	<ul style="list-style-type: none"> • Pest control • Disease control • Weed control • Integrated pest management

	<ul style="list-style-type: none"> • Integrated weed management
8. Fertilizers may include but are not limited to:	<ul style="list-style-type: none"> • Organic manure • Basal inorganic fertilizer • Foliar fertilizer • Fertigation fertilizer
9. Post-harvest practices may include but are not limited to:	<ul style="list-style-type: none"> • Washing • Cleaning • Grading • Bunching • Packing • Storage
10. Marketing techniques may include but are not limited to:	<ul style="list-style-type: none"> • Online marketing • Influencer marketing • Referrals • Advertisements • Auctioneering • Public relations • Cold calling • Content marketing • Invoicing • Loyalty programs

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:

- Land tilling
- Nursery preparation
- Planting
- Measuring

- Levelling
- Gaping
- Pruning
- Support
- Spraying
- Fertigation and chemigation in cut flowers production
- Pests, diseases and nutrients deficiency scouting
- Equipment calibration
- Technical Report writing
- Handling of cut flowers
- Soil sampling
- Observation
- Negotiation
- Digital literacy

Required knowledge

The individual needs to demonstrate knowledge of:

- Sources of quality water
- Agro Ecological Zonation
- Cut flowers production tools and equipment
- Cut flowers production structures
- Types of cut flowers
- Physiology of cut flowers
- Soil sampling and testing
- Soil and water conservation measures
- Phyto-sanitary requirements
- Sources of quality planting materials for cut flowers
- Husbandry practices in cut flowers production
- Cut flowers production technologies
- Fertigation and chemigation in production of cut flowers
- Procedures for calibration of equipment
- Soilless growing medium
- Flower induction
- Maturity indices in cut flowers

- Harvesting and post harvesting handling of cut flowers
- Accounting principles
- Production records and reports
- Waste management practices
- Occupational safety and health procedures

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> <p class="list-item-l1">1.1 Used personal protective equipment as per work requirement</p> <p class="list-item-l1">1.2 Treated planting materials based on agronomic requirements.</p> <p class="list-item-l1">1.3 Prepared cut flower nursery as per agronomic requirement</p> <p class="list-item-l1">1.4 Raised cut flower seedlings as per work procedure</p> <p class="list-item-l1">1.5 Prepared land for establishing cut flower as per agronomic requirement</p> <p class="list-item-l1">1.6 Applied soil amendments as per soil analysis report</p> <p class="list-item-l1">1.7 Transplanted Seedlings based on agronomic requirements</p> <p class="list-item-l1">1.8 Carried out crop protection practices on cut flower as per work procedure</p> <p class="list-item-l1">1.9 Maintained plant population as per agronomic requirement</p> <p class="list-item-l1">1.10 Carried out pruning, training and de-suckering based on crop requirement</p> <p class="list-item-l1">1.11 Applied fertilizers in accordance to crop nutrient requirement</p> <p class="list-item-l1">1.12 Harvested cut flower as per maturity indices</p> <p class="list-item-l1">1.13 Performed cut flower post-harvest practices in accordance to work requirement</p> <p class="list-item-l1">1.14 Managed wastes generated in production process in accordance to work requirement</p>
-----------------------------------	---

Resource implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> 2.1 Appropriately simulated environment where assessment can take place 2.2 Access to relevant work environment 2.3 Resources relevant to the proper activities or tasks
Methods of assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Observation 3.2 Oral questioning 3.3 Portfolio of evidence 3.4 Interviews 3.5 Third party report 3.6 Written tests 3.7 Practical tests
Context of assessment	<p>Competency may be assessed:</p> <ul style="list-style-type: none"> 4.1 Workplace 4.2 Simulated workplace environment
Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.</p>