

## PRODUCE TROPICAL FRUITS

**ISCED UNIT CODE:** 0812 351 03A

**TVETCDACC UNIT CODE:** HO/OS/HP/CR/03/4/MA

### UNIT DESCRIPTION

This unit specifies the competencies required to produce quality and clean tropical fruits. It involves preparing tropical fruits planting materials, establishing tropical fruits, managing tropical fruits and performing tropical fruits post-harvest practices.

### ELEMENTS AND PERFORMANCE CRITERIA

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
These describe the key outcomes which make up workplace functions	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 tropical fruits nursery	1.1 <b>Personal protective equipment</b> are worn as per work requirement. 1.2 Tools, equipment and materials 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 Nursery is prepared according to agronomic requirements of <b>tropical fruits</b> . 1.6 Planting materials are raised in nursery as per agronomic requirement 1.7 Tropical fruits <b>nursery management practices</b> are performed as per agronomic requirements.
2. Establish tropical fruits orchard	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 Orchard site is marked based on farm plan

	<p>2.4 Land clearing is performed as per agronomic requirements</p> <p>2.5 <b>Tillage practices</b> are carried out as per agronomic requirements</p> <p>2.6 Soil and water conservation measures are applied as per agronomic needs</p> <p>2.7 <b>Soil amendments</b> are applied as per soil analysis report</p> <p>2.8 Seedlings are transplanted based on agronomic requirements</p>
3. Manage tropical fruits	<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 on tropical fruits as per agronomic requirements</p> <p>3.3 Training and pruning are carried out on tropical fruits as per agronomic requirements</p> <p>3.4 <b>Crop protection practices</b> are carried out on tropical fruits as per agronomic requirement</p> <p>3.5 Physiological disorders are managed as per agronomic requirement</p> <p>3.6 <b>Fertilizers</b> are applied as per agronomic requirements</p> <p>3.7 Tropical fruit trees are mulched as per agronomic requirements</p> <p>3.8 Tropical fruit trees are watered as per agronomic requirements</p> <p>3.9 Tropical fruit trees are induced to flower as per agronomic requirements</p> <p>3.10 Tropical fruits are harvested as per agronomic requirement</p> <p>3.11 Waste management is undertaken in accordance to work requirement</p>
4. Perform tropical fruits 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 tropical fruits is assessed as per work procedures</p> <p>4.3 <b>Post-harvest practices</b> are carried out in accordance to work requirement</p>

	<p>4.4 Tropical fruits <b><i>Marketing techniques</i></b> 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 environment and conditions to which the performance criteria apply. It allows for different work environment and situations that will affect performance.

Variable	Range
1. Tropical fruits may include but are not limited to:	<ul style="list-style-type: none"> <li>• Mangoes</li> <li>• Oranges</li> <li>• Papaya</li> <li>• Pineapple</li> <li>• Pawpaw</li> <li>• Avocado</li> <li>• Bananas</li> <li>• Passion fruit</li> <li>• Tree tomatoes</li> <li>• Guava</li> <li>• Loquat</li> <li>• Lime</li> <li>• White sapote</li> <li>• Dragon fruit</li> </ul>
2. Tools may include but are not limited to:	<ul style="list-style-type: none"> <li>• Hoes</li> <li>• Machetes</li> <li>• Secateurs</li> <li>• Shovels</li> <li>• Soil augur</li> <li>• Panga</li> <li>• Hammer</li> <li>• Saw</li> <li>• Bucket</li> <li>• Shears</li> </ul>

	<ul style="list-style-type: none"> <li>• Dibbler</li> <li>• Pegs</li> </ul>
3. Equipment may include but are not limited to:	<ul style="list-style-type: none"> <li>• Spray pumps</li> <li>• Watering cans</li> <li>• Hose pipes</li> <li>• Plough</li> <li>• Harrows</li> <li>• Ridgers</li> <li>• Boom sprayer</li> <li>• Pruning saw</li> <li>• Wire strainer</li> <li>• Traps</li> <li>• Pipe sprinklers</li> <li>• Scouting flags</li> <li>• Storage tanks</li> <li>• Tractors</li> <li>• Grading shed</li> <li>• Bud count square</li> <li>• Meteorological equipment</li> </ul>
4. Planting materials may include but are not limited to:	<ul style="list-style-type: none"> <li>• Seeds</li> <li>• Suckers</li> <li>• Seedlings</li> <li>• Cuttings</li> <li>• Tubers</li> <li>• Tissue culture</li> <li>• Buds</li> <li>• Corms</li> <li>• Suckers</li> <li>• Corms</li> <li>• Pesticides</li> <li>• Fertilizers</li> <li>• Stationery</li> <li>• Manures</li> </ul>

	<ul style="list-style-type: none"> <li>• Rope</li> <li>• Nets</li> <li>• Papers</li> <li>• Fencing wire</li> <li>• Staking sticks</li> <li>• Nails</li> <li>• Herbicides</li> </ul>
5. Nursery management practices may include but are not limited to:	<ul style="list-style-type: none"> <li>• Mulching</li> <li>• Gapping</li> <li>• Thinning</li> <li>• Pruning</li> <li>• Training</li> <li>• Watering</li> <li>• Fertilizer application</li> <li>• Pest and diseases control</li> </ul>
6. Personal protective equipment may include but are not limited to:	<ul style="list-style-type: none"> <li>• Gumboots</li> <li>• Gloves</li> <li>• Overalls</li> <li>• Dust coats</li> <li>• Masks</li> </ul>
7. Tillage practices may include but are not limited to	<ul style="list-style-type: none"> <li>• Primary tillage</li> <li>• Secondary tillage</li> <li>• Tertiary tillage</li> </ul>
8. Soil amendments may include but are not limited to:	<ul style="list-style-type: none"> <li>• Organic and inorganic fertilizers</li> <li>• Agricultural lime</li> <li>• Agricultural gypsum</li> </ul>
9. Crop protection practices may include but are not limited to:	<ul style="list-style-type: none"> <li>• Pest control</li> <li>• Disease control</li> <li>• Weed control</li> </ul>
10. Fertilizers may include but are not limited to	<ul style="list-style-type: none"> <li>• Organic manure</li> <li>• Basal inorganic fertilizer</li> <li>• Foliar fertilizer</li> </ul>

	<ul style="list-style-type: none"> <li>• Fertigation fertilizer</li> </ul>
11. Post-harvest practices may include but are not limited to:	<ul style="list-style-type: none"> <li>• Transportation</li> <li>• Cleaning</li> <li>• Sorting</li> <li>• Grading</li> <li>• Drying</li> <li>• Processing</li> <li>• Packaging</li> <li>• Branding</li> <li>• Storage</li> </ul>
12. Marketing techniques may include but are not limited to:	<ul style="list-style-type: none"> <li>• Online marketing</li> <li>• Influencer marketing</li> <li>• Referrals</li> <li>• Advertisements</li> <li>• Auctioneering</li> <li>• Public relations</li> <li>• Cold calling</li> <li>• Content marketing</li> <li>• Invoicing</li> <li>• Loyalty programs</li> </ul>

## REQUIRED KNOWLEDGE AND SKILLS

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

### Required knowledge

The individual needs to demonstrate knowledge of:

- Food safety in production of tropical fruits
- Sources of quality water
- Agro Ecological Zonation
- Types of tools and equipment used in production of tropical fruits

- Structures for production of tropical fruits
- Types of tropical fruits
- Physiology of tropical fruits
- Soil and water conservation measures
- Phyto-sanitary requirements
- Sources of quality planting materials for tropical fruits
- Husbandry practices in tropical fruits production
- Tropical fruits production Technologies
- Procedures for calibration of equipment
- Maturity indices in tropical fruits
- Harvesting and Post Harvesting Handling of tropical fruits
- Record keeping and accounting
- Waste Management
- Occupational Safety and Health Procedures

## **Required skills**

The individual needs to demonstrate the following skills:

- Measuring
- Levelling
- Gaping
- Grafting
- Pruning
- Spraying
- Pests, diseases and nutrients deficiency scouting
- Equipment calibration
- Technical Report writing
- Observation
- Negotiation
- Digital literacy
- Soil sampling

## **EVIDENCE GUIDE**

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

1. Critical aspects of competency	<p>Assessment requires evidence that the candidate:</p> <ul style="list-style-type: none"> <li>1.1 Used personal protective equipment as per work requirement</li> <li>1.2 Treated planting materials based on agronomic requirements.</li> <li>1.3 Prepared tropical fruits nursery as per agronomic requirement</li> <li>1.4 Raised tropical fruits seedlings as per work procedure</li> <li>1.5 Prepared land for establishing tropical fruits as per agronomic requirement</li> <li>1.6 Applied soil amendments as per soil analysis report</li> <li>1.7 Transplanted Seedlings based on agronomic requirements</li> <li>1.8 Carried out crop protection practices on tropical fruits as per work procedure</li> <li>1.9 Maintained plant population as per agronomic requirement</li> <li>1.10 Carried out pruning, training and de-suckering based on crop requirement</li> <li>1.11 Applied fertilizers in accordance to crop nutrient requirement</li> <li>1.12 Harvested tropical fruits as per maturity indices</li> <li>1.13 Carried out tropical fruits post-harvest practices in accordance to work requirement</li> <li>1.14 Managed wastes generated in production process in accordance to work requirement</li> </ul>
2. Resource implications	<p>The following resources should be provided:</p> <ul style="list-style-type: none"> <li>2.1 Appropriately simulated environment where assessment can take place</li> <li>2.2 Access to relevant work environment</li> <li>2.3 Resources relevant to the proper activities or tasks</li> </ul>

3. Methods of assessment	<p>Competency in this unit may be assessed through:</p> <ul style="list-style-type: none"> <li>3.1 Practical tests</li> <li>3.2 Oral questioning</li> <li>3.3 Portfolio of evidence</li> <li>3.4 Third party report</li> <li>3.5 Written tests</li> </ul>
4. Context of assessment	<p>Competency may be assessed:</p> <ul style="list-style-type: none"> <li>4.1 Workplace</li> <li>4.2 simulated workplace environment</li> </ul>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.</p>