

PRODUCE SUB-TROPICAL FRUITS

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UNIT DESCRIPTION

This unit specifies the competencies required to produce quality and clean tropical and sub-tropical fruits. It involves preparing sub-tropical fruits planting materials, establishing sub-tropical fruits, managing sub-tropical fruit orchard, performing post-harvest practices, operating agro-processing machinery and perform soil analysis

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
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 sub-tropical fruits nursery	1.1 Personal protective equipment are worn as per work requirement 1.2 Nursery site is selected based on farm layout 1.3 Nursery site soil analysis is performed as per work procedure 1.4 Tools, equipment and materials are assembled as per work requirement. 1.5 Nursery is prepared according to agronomic requirements of tropical and sub-tropical fruits. 1.6 Planting materials are raised in nursery as per agronomic requirement

	1.7 Sub-tropical fruits <i>nursery management practices</i> are performed as per agronomic requirements.
2. Establish sub-tropical fruits orchard	<p>2.1 <i>Personal protective equipment's</i> are worn as per work requirement</p> <p>2.2 Orchard site is selected based on farm plan</p> <p>2.3 Tools, equipment and materials are assembled as per work requirement</p> <p>2.4 Land clearing is performed as per agronomic requirements</p> <p>2.5 Tillage practices 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 <i>Soil amendments</i> are applied as per soil analysis report</p> <p>2.8 Seedlings are transplanted based on agronomic requirements</p>
3. Manage sub-tropical fruits orchard	<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 sub-tropical fruits as per agronomic requirements</p> <p>3.3 Training and pruning is carried out on sub-tropical fruits as per agronomic requirements</p> <p>3.4 <i>Crop protection practices</i> are carried out on tropical and sub-tropical fruits 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 Sub-tropical fruit trees are mulched as per agronomic requirements</p> <p>3.8 Sub-tropical fruit trees are watered as per agronomic requirements</p> <p>3.9 Sub-tropical fruit trees are induced to flower as per agronomic requirements</p> <p>3.10 Sub-tropical fruits are harvested as per agronomic requirement</p>

	3.11 Waste management is undertaken in accordance to work requirement
4. Perform sub-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 and sub-tropical fruits is assessed as per work procedures</p> <p>4.3 <i>Post-harvest practices</i> are carried out in accordance to work requirement</p> <p>4.4 Sub-tropical fruits <i>marketing techniques</i> are applied as per organizational policy.</p> <p>4.5 Waste management is undertaken in accordance to work requirement</p>
5. Operate agro-processing machinery	<p>5.1 Personal protective equipment is worn as per safety procedures</p> <p>5.2 <i>Agro-processing machinery</i> is operated as per work requirement</p> <p>5.3 Agro-processing machinery is maintained and repaired as per work requirement</p> <p>5.4 Agro-processing machinery is stored as per work requirement</p>
6. Perform soil analysis	<p>6.1 Personal protective equipment's are worn as per work requirement</p> <p>6.2 Soil analysis equipment and materials are assembled according to work requirement</p> <p>6.3 Soil samples are processed based on test requirement</p> <p>6.4 <i>Soil properties</i> are analysed in accordance to work requirement</p> <p>6.5 Soil analysis report is prepared as per work procedure</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 and sub-tropical fruits may include but are not limited to:	<ul style="list-style-type: none"> • Mangoes • Oranges • Papaya • Pineapple • Pawpaw • Avocado • Bananas • Tree tomatoes • Straw berry • Guava • Loquat • Lime • White sapote
2. Tools may include but are not limited to:	<p>Hoes Machetes Secateurs Shovels Soil augur Panga Hammer Saw Bucket Shears Dibbler Pegs</p>
3. Equipment may include but are not limited to:	<ul style="list-style-type: none"> • Spray pumps • Watering cans • Hose pipes • Plough • Harrows • Ridgers

	<ul style="list-style-type: none"> • Boom sprayer • Pruning saw • Wire strainer • Traps • Pipe sprinklers • Scouting flags • Storage tanks • Tractors • Grading shed • Bud count square <p>Meteorological equipment</p>
4. Planting materials may include but are not limited to:	<ul style="list-style-type: none"> • Seeds • Suckers • Seedlings • Cuttings • Tubers • Tissue culture • Buds • Corms • Suckers • Corms Pesticides • Fertilizers • Stationery • Manures • Rope • Nets • Papers • Fencing wire • Staking sticks • Nails • Herbicides

5. Tillage practices may include but are not limited to:	<ul style="list-style-type: none"> • Primary Tillage • Secondary • Tertiary
6. Nursery management practices may include but are not limited to:	<ul style="list-style-type: none"> • Mulching • Gapping • Thinning • Pruning • Training • Watering • Fertilizer application • Pest and diseases control
7. Personal protective equipment may include but are not limited to:	<ul style="list-style-type: none"> • Gumboots • Gloves • Overalls • Dust coats • Masks
8. Soil amendments may include but are not limited to:	<ul style="list-style-type: none"> 7. Organic and inorganic fertilizers 8. Agricultural lime • Agricultural gypsum
9. Crop protection practices may include but are not limited to:	<ul style="list-style-type: none"> • Pest control • Disease control 9. Weed control
10. Post-harvest practices may include but are not limited to:	<ul style="list-style-type: none"> • Transportation • Cleaning • Sorting • Grading • Drying • Processing • Packaging • Branding • Storage

11. Marketing techniques may include but are not limited to:	<ul style="list-style-type: none"> • Online marketing • Influencer marketing • Referrals • Advertisement • Auctioneering • Public relation • Cold calling • Content marketing • Invoicing • Loyalty programs
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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 and sub-tropical
- Sources of quality water
- Agro Ecological Zonation
- Types of tools and equipment used in production of tropical fruits
- Structures for production of tropical fruits and sub-tropical
- Types of tropical fruits and sub-tropical
- Physiology of tropical fruits and sub-tropical
- Soil and water conservation measures
- Phyto-sanitary requirements
- Good Agricultural Practices
- Sources of quality planting materials for tropical fruits and sub-tropical
- Husbandry practices in tropical fruits production and sub-tropical
- 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
- General management of tropical fruits and sub-tropical orchard

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 and testing

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"> 1.1 Used personal protective equipment as per work requirement 1.2 Treated planting materials based on agronomic requirements. 1.3 Prepared propagation media in accordance with agronomic requirements. 1.4 Transplanted tropical fruits and sub-tropical as per agronomic requirements.
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	<p>1.5 Carried out crop protection practices on tropical fruits and sub-tropical fruits as per work procedure</p> <p>1.6 Carried out gapping and thinning on tropical fruits and sub-tropical fruits as per agronomic requirement</p> <p>1.7 Maintained plant population as per agronomic requirement</p> <p>1.8 Carried out pruning, training and de-suckering based on crop requirement</p> <p>1.9 Applied fertilizers in accordance to crop nutrient requirement</p> <p>1.10 Harvested tropical fruits and sub-tropical fruits as per maturity indices</p> <p>1.11 Carried out tropical fruits and sub-tropical fruits post-harvest practices in accordance to work requirement</p> <p>1.12 Managed waste generated in production process in accordance to work requirement</p>
2. Resource implications	<p>The following resources should be provided:</p> <p>2.7 Appropriately simulated environment where assessment can take place</p> <p>2.8 Access to relevant work environment</p> <p>2.9 Resources relevant to the proper activities or tasks</p>
3. Methods of assessment	<p>Competency in this unit may be assessed through:</p> <ol style="list-style-type: none"> 1. Practical 2. Project 3. Third party report 4. Portfolio of evidence 5. Written tests 6. Oral questioning
4. Context of assessment	<p>4.1 This competency may be assessed in a workplace or in a simulated workplace.</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector and workplace job role is recommended.</p>