

## OPERATE PASSION FRUIT ORCHARD

**ISCED UNIT CODE:** 0811 251 02A

**TVETCDACC UNIT CODE:** AG/OS/PF/CR/02/3/MA

### UNIT DESCRIPTION

This unit specifies the competencies required to operate a passion fruit orchard. It involves planning the passion fruit orchard, preparing planting area, planting passion fruit seedlings maintaining soil fertility and moisture, and, controlling weeds, pests and diseases. It also involves pruning and training the passion fruit plants, harvesting mature passion fruits and carrying out post-harvesting practices.

### ELEMENTS AND PERFORMANCE CRITERIA

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
These describe the <b>key outcomes</b> which make up workplace function (to be stated in active)	These are <b>assessable statements</b> which specify the required level of performance for each of the elements (to be stated in passive voice) <i>Bold and italicized terms are elaborated in the Range</i>
1. Plan passion fruit orchard	1.1 Scale and size of production is determined based on available resources and estimated market demand. 1.2 <b>Basic budgets</b> are prepared based on the scale of production. 1.3 Passion fruit planting area is identified based on passion fruit establishment requirements in the Passion Fruit Production Manual (PFPM). 1.4 Layout of the passion fruit orchard is prepared in accordance with PFPM 1.5 <b>Record keeping templates</b> are sourced and filled based on the need. 1.6 Sources of quality passion fruit seedlings are identified based on certification authority standards

2. Prepare passion fruit planting area	<p>2.1 <b>Tools, equipment, implements, supplies and material</b> are assembled based on workplace requirements.</p> <p>2.2 Passion fruit orchard planting area is cleared and <b>tilled</b> according to GAP guidelines in the PFPM.</p> <p>2.3 Soil samples are obtained and submitted for testing as per standard soil sampling procedures.</p> <p>2.4 Passion fruit planting and trellising holes are marked based on spacing requirements in the PFPM.</p> <p>2.5 Passion fruit planting and trellising <b>holes are prepared</b> according to the PFPM.</p> <p>2.6 Recommendations of soil test results are applied based on GAP guidelines in the PFPM</p>
3. Plant passion fruit seedlings	<p>3.1 <b>Planting media</b> are prepared and planting holes refilled as per the PFPM guidelines.</p> <p>3.2 Trellising poles and wires/strings are installed according to the PFPM guidelines.</p> <p>3.3 Passion fruit seedlings are planted in accordance with the PFPM guidelines.</p> <p>3.4 Planting records are developed and managed as per workplace procedures</p>
4. Maintain soil fertility and moisture	<p>4.1 Fertilizer is applied according to soil lab test recommendations and PFPM guidelines.</p> <p>4.2 Soil moisture needs are assessed as per PFPM guidelines.</p> <p>4.3 Passion fruit orchard is irrigated according to Agro-Ecological Zones (AEZ) requirements and PFPM guidelines.</p> <p>4.4 Mulching is carried out according to workplace instructions and PFPM guidelines</p>
5. Control weeds, pest and diseases	<p>5.1 Scouting is carried out according to workplace instructions and PFPM guidelines.</p>

	<p>5.2 Weeds are controlled according to workplace instructions and PFPM guidelines.</p> <p>5.3 Pests and diseases are controlled according to workplace instructions and GAP guidelines in the PFPM.</p>
6. Prune and train passion fruit plants	<p>6.1 <b>Pruning tools and equipment</b> are assembled in accordance with work place instructions and PFMP guidelines.</p> <p>6.2 Pruning is carried out according to workplace instructions and PFPM guidelines.</p> <p>6.3 Training of vines is done according to workplace instruction and PFPM guidelines</p>
7. Harvest passion fruits.	<p>7.1 <b>Harvesting tools and equipment</b> are assembled according to workplace requirements</p> <p>7.2 Passion fruits for harvesting are identified based on maturity indices and market requirements.</p> <p>7.3 Passion fruits are picked according to <b>harvesting procedures and measures</b>.</p> <p>7.4 Harvest records are generated and managed based on workplace procedures</p>
8. Carry out post-harvest practices	<p>8.1 <b>Post-harvest handling tools, equipment and materials</b> are identified and assembled based on workplace requirements</p> <p>8.2 <b>Post-harvest practices</b> are selected and undertaken based on PFPM guidelines and market requirement</p> <p>8.3 Waste is managed as per NEMA regulations</p> <p>8.4 Tools and equipment are cleaned and stored as per workplace policy</p> <p>8.5 Records of tools, equipment and materials are developed and shared as per workplace policy.</p>

## RANGE

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.

VARIABLE	RANGE
1. Budgets may include but are not limited to:	<ul style="list-style-type: none"><li>• Cost of labor</li><li>• Cost of tools, equipment, materials and supplies</li><li>• Cost of land preparation</li><li>• Land lease costs</li></ul>
2. Records may include but not limited to:	<ul style="list-style-type: none"><li>• Production records</li><li>• Cost and sales records</li><li>• Inventory records</li></ul>
3. Tools, equipment, supplies and materials may include but not limited to;	<ul style="list-style-type: none"><li>• Drip kits</li><li>• Fertilizers – organic and inorganic</li><li>• Fungicides</li><li>• Galvanized wires</li><li>• Herbicides</li><li>• Hoes</li><li>• Knapsack sprayers</li><li>• Knives</li><li>• Lime</li><li>• Mulches (hay, saw dust, polythene)</li><li>• Nails</li><li>• Passion fruit seedlings</li><li>• Pegs</li><li>• Pesticides</li><li>• Posts</li><li>• Secateurs</li></ul>

	<ul style="list-style-type: none"> <li>• Sisal twine</li> <li>• Slashers</li> <li>• Soil scanners</li> <li>• </li> </ul>
4. Tilled may include but not limited to	<ul style="list-style-type: none"> <li>• Zero tillage</li> <li>• Minimum tillage</li> <li>• Primary tillage</li> <li>• Secondary tillage</li> </ul>
5. Holes are prepared includes but not limited to:	<ul style="list-style-type: none"> <li>• Soil excavation</li> <li>• Mixing top soil and manure – for planting holes only</li> <li>• Curing of soil/manure mixture – for planting holes only</li> </ul>
6. Planting media includes but not limited to:	<ul style="list-style-type: none"> <li>• Top soil</li> <li>• Manure</li> <li>• Inorganic fertilizer</li> <li>• Trichoderma</li> </ul>
7. Pruning tools and equipment	<ul style="list-style-type: none"> <li>• Secateurs</li> <li>• Knives</li> <li>• Disinfectants</li> <li>• Cotton wool</li> <li>• Waste pail</li> <li>• PPE</li> </ul>
8. Harvesting tools, equipment, materials and supplies may include but not limited to;	<ul style="list-style-type: none"> <li>• Crates</li> <li>• PPE</li> <li>• Knives</li> <li>• Buckets</li> <li>• Gunny bags</li> <li>• Nets</li> </ul>

	<ul style="list-style-type: none"> <li>• Cartons</li> <li>• Ropes</li> <li>• Pallets</li> </ul>
9. Harvesting procedures and measures may include but not limited to picking based on;	<ul style="list-style-type: none"> <li>• Maturity</li> <li>• Size</li> <li>• Shape</li> <li>• Color</li> <li>• Standard texture</li> <li>• Turgidity</li> <li>• Export market requirements</li> <li>• Brix test outcome / sugar test</li> </ul>
10. post-harvest handling tools, equipment and materials may include but not limited to:	<ul style="list-style-type: none"> <li>• Crates</li> <li>• PPE</li> <li>• Buckets</li> <li>• Clean water</li> <li>• Gunny bags</li> <li>• Nets</li> <li>• Cartons</li> <li>• Pallets</li> <li>• Soft towel</li> <li>• Disinfectant</li> <li>• Brushes</li> </ul>
11. Post-harvest handling practices may include but not limited to;	<ul style="list-style-type: none"> <li>• Cleaning</li> <li>• Packing</li> <li>• Storage</li> <li>• Transportation</li> <li>• Sorting</li> <li>• Grading</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:

- Budget preparation
- Record keeping
- Field layout
- Harvesting
- Hole digging
- Irrigation
- management
- Pests and disease identification and control
- Ploughing
- Pruning, lateral training and trellising
- Seedling planting
- Soil sampling
- Spraying and fertilizer application
- Trellis system erecting
- Watering
- Weed control

### **Required Knowledge**

The individual needs to demonstrate knowledge of:

- Ecological requirements for passion fruit establishment
- Farm layout design
- Types of fences
- Fertilizers/manures
- Fruit harvesting
- Gapping

- GAPs
- Handling of passion fruit seedlings
- Hole preparation and spacing
- Intercropping techniques
- Indicators of right harvesting time
- Irrigation methods
- Land preparation methods and procedures
- Moisture retention techniques
- Pest and disease identification and control measures
- Record keeping
- Rogueing and removal of dead or diseased plants
- planting of seedlings
- Soil fertility management
- Trellising techniques
- Vine-training and pruning techniques
- Watering management
- Weed control methods

## 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>1.1 Tilled passion fruit orchard planting area according to GAP guidelines in the PFPM</p> <p>1.2 Prepared passion fruit planting and trellising holes according to the PFPM</p> <p>1.3 Planted passion fruit seedlings and developed records as described in the PFPM</p> <p>1.4 Controlled weeds, pest and diseases based on PFPM guidelines</p> <p>1.5 Applied passion fruit fertilizer according to soil lab test</p>
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	<p>recommendations and PFPM guidelines</p> <p>1.6 Pruned passion fruit according to workplace instructions and PFPM guidelines</p> <p>1.7 Trained passion fruit vines as per workplace instructions and PFPM guidelines</p> <p>1.8 Picked passion fruits and maintained records according to maturity indices and market demands</p> <p>1.9 Carried out post-harvest practices according PFPM guidelines and market requirements</p>
2. Resource Implications	<p>The following resources should be provided:</p> <p>2.1 Access to passion fruit orchard</p> <p>2.2 Appropriately simulated environment where assessment can take place</p> <p>2.3 Tools, equipment, materials and supplies relevant to the operation of a passion fruit orchard</p>
3. Methods of Assessment	<p>Competency in this unit may be assessed through:</p> <p>3.1 Observation</p> <p>3.2 Practical test</p> <p>3.3 Portfolio of evidence</p> <p>3.4 Term project</p> <p>3.5 Oral questioning</p> <p>3.6 Third party report</p> <p>3.7 Written tests</p>
4. Context of Assessment	<p>Competency may be assessed</p> <p>4.1 on the job</p> <p>4.2 In a simulated work environment</p>
5. Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.