

## PRODUCE PASSION FRUIT SEEDLINGS

ISCED UNIT CODE: 0811 251 01A

TVETCDACC UNIT CODE:AG/OS/PF/CR/01/3/MA

### UNIT DESCRIPTION

This unit specifies the competencies required to produce passion fruit seedlings. It involves establishing a passion fruit nursery, maintaining the nursery beds, preparing potted and grafted seedlings, and controlling pests and diseases.

### ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the <b>key outcomes</b> which make up workplace function (to be stated in active)	<p>These are <b>assessable statements</b> which specify the required level of performance for each of the elements (to be stated in passive voice).</p> <p><i>Bold and italicized terms are elaborated in the Range</i></p>
1. Establish passion fruit nursery	<p>1.1 Nursery site selected in accordance with the nursery type, environmental and location conditions.</p> <p>1.2 Required <b>tools, equipment materials and supplies</b> are identified, acquired and assembled as per nursery preparation needs.</p> <p>1.3 Site soil and water samples are collected and submitted according to the guidelines in the PFPM</p> <p>1.4 Laboratory test results recommendations are applied as per the workplace instructions</p> <p>1.5 . <b>Nursery structures</b> are prepared based on type of planting material and specification in the passion fruit production manuals (<b>PFPM</b>).</p> <p>1.6 Nursery operation certificates and licenses are obtained in</p>

	<p>accordance with certification regulations</p> <p>1.7 <b>Planting media</b> is prepared based on seedling requirements.</p> <p>1.8 <b>Planting material</b> is acquired in accordance with GAP guidelines in the PFPM.</p> <p>1.9 Planting material and media are prepared in accordance with specification in the PFPM.</p> <p>1.10 Planting is carried out based GAP specifications in the PFPM guidelines.</p>
2. Maintain nursery beds	<p>2.1 Seedlings are mulched and irrigated according to the PFPM guidelines.</p> <p>2.2 Weeds are controlled based on the scouting findings and in line with guidelines in the PFPM.</p> <p>2.3 Fertilizers are applied as per the PFPM guidelines.</p> <p>2.4 Thinning is carried out based on PFPM guidelines.</p> <p>2.5 Pruning is carried out as per the specifications in the PFPM guidelines</p>
3. Prepare potted seedlings	<p>3.1 Required tools, equipment, materials and supplies are identified and assembled according to workplace instructions.</p> <p>3.2 <b>Potting media</b> is prepared based on the soil structure and fertility.</p> <p>3.3 Potting of seedlings is carried out as per guidelines in the PFPM and workplace instructions.</p> <p>3.4 <b>Potted seedlings are maintained</b> according to the PFPM guidelines.</p> <p>3.5 Records of potted seedling are developed and maintained as per workplace procedures</p>
4. Prepare grafted seedlings	<p>4.1 Required tools, equipment, materials and supplies are</p>

	<p>assembled in accordance with workplace instructions.</p> <p><b>4.2 <i>Scions and root stocks are</i></b> prepared according to GAP guidelines and workplace instructions.</p> <p>4.3 Grafting is carried out according to PFPM and workplace instructions.</p> <p><b>4.4 <i>Grafted seedlings are maintained</i></b> as per the GAP guidelines in the PFPM and workplace instructions.</p> <p><b>4.5 <i>Grafted seedlings are hardened</i></b> according to the GAP guidelines in the PFPM and workplace instructions.</p> <p>4.6 Records of grafted seedlings are developed and shared as per workplace procedures</p>
5. Control pests and diseases	<p>5.1 Pests and diseases are identified based on basic scouting findings specified in the PFPM guidelines.</p> <p>5.2 Pests and diseases are controlled in accordance with GAP guidelines in the PFPM and <i>established safety standards</i>.</p> <p>5.3 Records of disease control are developed and shared as per workplace procedures</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. Tools may include but are not limited to:	<ul style="list-style-type: none"> <li>• Buckets</li> <li>• Fork</li> <li>• Grafting knife/blade</li> <li>• Hoe</li> <li>• Machete/panga</li> <li>• Pruning saw</li> <li>• Rake</li> <li>• Secateurs</li> <li>• Slasher</li> <li>• Spade</li> <li>• Trowel</li> <li>• Watering can</li> </ul>
2. Equipment includes but not limited to:	<ul style="list-style-type: none"> <li>• Hose pipe</li> <li>• Knapsack sprayer</li> <li>• PPEs</li> <li>• Sockets</li> <li>• Soil sterilisation equipment</li> <li>• Wheel barrow</li> </ul>

3. Materials and supplies include but are not limited to:	<ul style="list-style-type: none"> <li>• Chemicals</li> <li>• Organic and Inorganic fertilizer</li> <li>• Forest soil</li> <li>• Germination trays</li> <li>• Grafting tape</li> <li>• Manure</li> <li>• Pesticides</li> <li>• Polybags,</li> <li>• Polythene tubing</li> <li>• Sand</li> <li>• Seedling tubes</li> <li>• Viable passion seeds</li> <li>• Rooting and shooting hormone</li> <li>• Clean water</li> </ul>
4. Nursery Structures may include but are not limited to:	<ul style="list-style-type: none"> <li>• Green house</li> <li>• Healing chamber</li> <li>• Nursery beds</li> <li>• Screen house</li> <li>• Shade net</li> </ul>
5. PFPM may include but are not limited to:	<ul style="list-style-type: none"> <li>• GIZ Passion fruit manuals</li> <li>• KALRO Passion fruit manuals</li> <li>• USAID Passion fruit manuals</li> <li>• AFA Passion fruit manuals</li> </ul>
6. Clean planting media may include but are not limited to:	<ul style="list-style-type: none"> <li>• Forest / virgin soil</li> <li>• Treated soil</li> <li>• Sand</li> <li>• Cocopeat / Peatmoss</li> <li>• Sawdust</li> </ul>

7. Quality planting materials includes but are not limited to:	<ul style="list-style-type: none"> <li>• Seeds</li> <li>• Vine cuttings</li> </ul>
8. Potting media may include but are not limited to:	<ul style="list-style-type: none"> <li>• Soil</li> <li>• Sand</li> <li>• Composted manure</li> </ul>
9. Potted seedlings are maintained includes but is not limited to:	<ul style="list-style-type: none"> <li>• Watering</li> <li>• Pest control</li> <li>• Disease control</li> <li>• Weed control</li> <li>• Fertilization</li> </ul>
10. Scions and root stocks acquired includes but is not limited to:	<p>Obtaining root / scion material from:</p> <ul style="list-style-type: none"> <li>• Certified sources</li> <li>• Insect proof screen house</li> </ul>
11. Grafted seedlings are maintained includes but is not limited to:	<ul style="list-style-type: none"> <li>• Watering</li> <li>• Pest control</li> <li>• Disease control</li> <li>• Weed control</li> <li>• Fertilization</li> <li>• Shoot pruning</li> </ul>
12. Grafted seedlings are hardened includes but is not limited to:	<ul style="list-style-type: none"> <li>• Root pruning</li> <li>• Controlled irrigation</li> <li>• Controlled shading</li> </ul>
13. Established safety standards includes but is not limited to:	<ul style="list-style-type: none"> <li>• Wearing PPE's</li> <li>• Food safety and hygiene standards</li> <li>• Chemical application safety guidelines</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;

- Grafting skills
- Pests and disease identification skills
- Planning skills
- Potting media identification and preparation skills
- Potting skills
- Pricking skills
- Problem solving skills
- Reading and writing skills
- Record keeping skills
- Root pruning skills
- Seedling hardening skills
- Seedling sorting skills
- Spraying skills
- Watering skills
- Weeding skills

### **Required Knowledge**

The individual needs to demonstrate knowledge of:

- Basic principles of plant propagation
- Control methods for pests and diseases of passion fruit seedlings
- Fertilizer application methods
- Germination timelines
- Hardening seedlings before transplanting into an orchard
- Mother block requirements
- Nursery cultural practices - pricking out, weeding and pruning
- Nursery record keeping

- Nursery registration / legal requirements
- Nursery sitting and layout
- Procedure for grafting of passion fruit seedlings
- Procedure for potting of seedlings
- Seed sorting and selection
- Seed sowing methods
- Seedbed preparation and management
- Types of nursery structures

## 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 Identified suitable passion fruit nursery site</p> <p>1.2 Identified, acquired and prepared clean/quality media and planting material</p> <p>1.3 Established planting material as per depth, volume and spacing requirements</p> <p>1.4 Potted passion fruit seedlings as per guidelines in the PFPM</p> <p>1.5 Grafted passion fruit seedlings as per guidelines in the PFPM</p> <p>1.6 Irrigated nursery beds in accordance with guidelines in the PFPM</p> <p>1.7 Control passion fruit pests and diseases as per guidelines in the PFPM</p> <p>1.8 Prepared and managed passion fruit seedling production records as per workplace procedures</p>
2. Resource Implications	<p>The following resources should be provided:</p> <p>2.3 Access to relevant nursery</p> <p>2.4 Appropriately simulated environment where assessment can take</p>

	<p>place</p> <p>2.5 Tools, equipment, materials and supplies relevant to nursery siting and establishment</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 on the job, off the job or a combination of these. Off the job assessment must be undertaken in a closely simulated workplace environment.</p>
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>