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PRODUCE HERBS AND SPICES IN OPEN ENVIRONMENT

ISCED UNIT CODE: 0812 251 03A

TVETCDACC UNIT CODE: HO/CU/HP/CR/03/3/MA

UNIT DESCRIPTION

This unit specifies the competencies required to produce Herbs and Spices in open environment. It involves propagating herbs and spices seedlings in open environment, preparing land for herbs and spices, growing herbs and spices, harvesting herbs and spices, and undertaking post-harvest marketing activities.

ELEMENTS AND PERFORMANCE CRITERIA

ELEMENT	PERFORMANCE CRITERIA
These describe the key outcomes which make up workplace function .	<p>These are assessable statements which specify the required level of performance for each of the elements.</p> <p><i>Bold and italicized terms are elaborated in the range.</i></p>
1. Propagate herbs and spices seedlings in open environment	<ul style="list-style-type: none"> 1.1 Market survey is undertaken as per herbs and spices type demand 1.2 <i>Herbs and spices</i> seeds are selected for propagation as per ecological requirements 1.3 Work safety measures are observed as per the work requirements. 1.4 Herbs and spices parts are identified as per herbs and spices crop type. 1.5 Tools and equipment are assembled as per work requirements 1.6 Suitable site is Identified based on soil analysis report 1.7 Soil and water are conserved as per agronomic requirements. 1.8 Soil sterilization is undertaken as per soil analysis 1.9 Water for irrigation is applied as per crop type 1.10 Crop nursery is prepared as per herbs and spices crop type 1.11 Crop nursery <i>management practices</i> are carriedoutas per herbs and spices crop 1.12 Tools and equipment are maintained as per type.

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	1.13 Farm activities costs is documented as per task requirements 1.14 Waste is disposed in accordance with EMCA 2015 requirements 1.15 Emerging trends are applied in nursery preparation as per current technological development
2. Prepare land for growing herbs and spices	2.1 Work safety measures are observed as per the work requirements. 2.2 Tools, equipment and materials are assembled as per work requirements 2.3 <i>Land tillage</i> is carried out as per agronomic requirements 2.4 Soil testing is carried out as per soil testing procedure. 2.5 Land is cleared as per agronomic requirements 2.6 Soil amendments is applied as per soil analysis report 2.7 Planting furrows are made as per herbs and spices crop type 2.8 Tools and equipment are maintained as per type. 2.9 Farm activities costs is documented as per task requirements 2.10 Waste is disposed in accordance with EMCA 2015 requirements 2.11 Emerging trends in preparing Land as per current technological development
3. Grow herbs and spices	3.1 Work safety measures are observed as per the work requirements 3.2 Tools, equipment and materials are assembled as per work requirements 3.3 Land is watered as per herbs and spices crop type 3.4 Food safety measures are implemented in conformity with assessment standards 3.5 Herbs and spices seedlings are transplanted as per agronomics requirements 3.6 Herbs and spices seeds are planted as per agronomics requirements 3.7 <i>Mulching</i> of the herbs and spices crops is carried out as per agronomic requirements. 3.8 Herbs and spices crops are watered as per crop type

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	<p>requirement</p> <p>3.9 Herbs and spices crop are gapped and thinned as per agronomic requirements</p> <p>3.10 Herbs and spices crop are trained and pruned as per agronomic requirements</p> <p>3.11 Weeds, pests and diseases are controlled as per agronomic requirement</p> <p>3.12 <i>Crop nutrition measures</i> are undertaken as per crop type requirement</p> <p>3.13 Food safety measures are implemented in conformity with assessment standards</p> <p>3.14 Tools and equipment are maintained as per type.</p> <p>3.15 Farm activities costs is documented as per task requirements</p> <p>3.16 Waste is disposed in accordance with EMCA requirements</p> <p>3.17 Emerging trends are applied in growing herbs and spices as per current technological development</p>
4. Harvest herbs and spices	<p>4.1 Work safety measures are observed as per the work requirements.</p> <p>4.2 Tools, equipment and materials are assembled as per work requirements</p> <p>4.3 <i>Maturity indices</i> are observed as per herbs and spices crop type.</p> <p>4.4 Food safety measures during harvesting are implemented in conformity to assessment standards</p> <p>4.5 <i>Crop Picking</i> is carried out as per the herbs and spices type</p> <p>4.6 Produce is transported to the pack house as per the herbs and spices type requirements</p> <p>4.7 Tools and equipment are maintained as per type.</p> <p>4.8 Farm activities costs is documented as per task requirements</p> <p>4.9 Waste is disposed in accordance with EMCA requirements</p> <p>4.10 Emerging trends are applied in harvesting herbs and spices as per current technological development</p>
5. Undertake post - harvest activities	<p>5.1 Work safety measures are observed as per the work requirements.</p>

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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.
	<p>5.2 Tools, equipment and materials are assembled as per work requirements</p> <p>5.3 Post Harvest food safety measures are implemented in conformity to assessment standards</p> <p>5.4 Harvested herbs and spices are received at the pack house as per herbs and spices types</p> <p>5.5 Herbs and spices are sorted as per herbs and spices type</p> <p>5.6 Produce is cleaned as per the herbs and spices crop type requirements</p> <p>5.7 Herbs and spices are graded as per market requirements</p> <p>5.8 Herbs and spices are packaged as per market requirements</p> <p>5.9 Produce is Stored as per herbs and spices crop type</p> <p>5.10 Tools and equipment are maintained as per type</p> <p>5.11 Farm activities costs is documented as per task requirements</p> <p>5.12 Waste is disposed in accordance with EMCA requirements</p> <p>5.13 Emerging trends are applied in post-harvest activities as per current technological development</p>
6. Undertake marketing activities	<p>6.1 Crop price is compared based on different markets</p> <p>6.2 Produce price range and market is decided based on the market demand</p> <p>6.3 Basic value addition is undertaken as per the market demand</p> <p>6.4 Farm activities costs is documented as per task requirements</p> <p>6.5 Waste is disposed in accordance with EMCA requirements</p> <p>6.6 Emerging trends are applied in undertaking marketing activities as per current technological development</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. Herbs and spices include but not limited to:	<ul style="list-style-type: none"> • Coriander • Rosemary • Mint

	<ul style="list-style-type: none"> • Basil • Ginger • Turmeric
2. Work safety measures include but not limited to:	<ul style="list-style-type: none"> • PPEs • Warning signage • Tools and equipment safety
3. Management practices include but not limited to:	<ul style="list-style-type: none"> • Watering • Thinning • Pricking out • Shading • Weeding • Pest and diseases control • Hardening off
4. Soil Components	<ul style="list-style-type: none"> • Physical properties of soil • Chemical properties of soil • Biological properties of soil
5. Land tillage include but not limited to:	<ul style="list-style-type: none"> • Primary tillage • Secondary tillage • Tertiary tillage
6. Soil amendment include but not limited to:	<ul style="list-style-type: none"> • Manure application • Liming • Fertilizer application
7. Mulching include but not limited to:	<ul style="list-style-type: none"> • Organic mulch • Inorganic mulch
8. Crop nutrition measures include but not limited to:	<ul style="list-style-type: none"> • Chemical Fertilizers application • Organic Fertilizers application
9. Maturity indices include but not limited to:	<ul style="list-style-type: none"> • Horticultural maturity • Market maturity • Physiological maturity
10. Picking include but not limited to:	<ul style="list-style-type: none"> • Cutting • Uprooting • Digging • Pinching
11. Basic value additions include but not limited to:	<ul style="list-style-type: none"> • Waxing • Packaging • Product Processing

REQUIRED SKILLS AND KNOWLEDGE

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

Required Skills

- Measuring skills
- Spraying skills
- Observation skills
- Record keeping skills
- Marketing skills
- Analytical skills
- Agronomic practices skills

Required Knowledge

The individual needs to demonstrate knowledge of:

- Crop husbandry practices
- Waste management practices
- Soil and water conservation measures
- Soil composition
- Plant anatomy
- Types of weeds and their control
- Types of Soil
- Safety measures
- Weather patterns
- Pests and diseases control measures
- Ecological zones
- Irrigation methods
- Food safety measures
- Basic financial literacy
- Crop nutrition measures

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 that candidates:</p> <ul style="list-style-type: none"> 1.1 Observed Work safety measures as per the work requirements 1.2 Selected Herbs and spices seeds for propagation as per ecological requirement 1.3 Carried out crop nursery management practices as per vegetable crop type 1.4 Carried out soil testing as per soil testing procedures 1.5 Applied Soil amendments as per soil analysis report 1.6 Disposed waste in accordance with EMCA 2015 requirements 1.7 Applied crop protection measures as per agronomic requirement 1.8 Undertook crop nutrition measures as per herbs and spices crop type requirement. 1.9 Identified maturity indices as per herbs and spices crop type. 1.10 Stored produce as per herbs and spices crop type requirement 1.11 Implemented food safety measures for herbs and spices as per conformity assessment standards
2. 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 environments. 2.3 Resources relevant to the proposed activities or task.
3. Methods of assessment	<p>Competency may be assessed through:</p> <ul style="list-style-type: none"> 3.1 Observation 3.2 Oral questioning 3.3 Written tests 3.4 Practicals 3.5 Projects
4. Context of Assessment	<p>Competency may be assessed:</p> <ul style="list-style-type: none"> 4.1 On-the-job 4.2 Simulated workplace environment
5. Guidance information for assessment	<p>Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended.</p>