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**SOUTH AFRICAN QUALIFICATIONS AUTHORITY
REGISTERED UNIT STANDARD:**

Perform routine operations and identify basic problems in hydroponic systems

SAQA US ID	UNIT STANDARD TITLE			
116072	Perform routine operations and identify basic problems in hydroponic systems			
ORIGINATOR		ORIGINATING PROVIDER		
SGB Primary Agriculture				
QUALITY ASSURING BODY				
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FIELD			SUBFIELD	
Field 01 - Agriculture and Nature Conservation			Primary Agriculture	
ABET BAND	UNIT STANDARD TYPE	PRE-2009 NQF LEVEL	NQF LEVEL	CREDITS
Undefined	Regular	Level 2	NQF Level 02	3
REGISTRATION STATUS		REGISTRATION START DATE	REGISTRATION END DATE	SAQA DECISION NUMBER
Reregistered		2012-07-01	2015-06-30	SAQA 0695/12
LAST DATE FOR ENROLMENT		LAST DATE FOR ACHIEVEMENT		
2016-06-30		2019-06-30		

In all of the tables in this document, both the pre-2009 NQF Level and the NQF Level is shown. In the text (purpose statements, qualification rules, etc), any references to NQF Levels are to the pre-2009 levels unless specifically stated otherwise.

This unit standard does not replace any other unit standard and is not replaced by any other unit standard.

PURPOSE OF THE UNIT STANDARD

A person achieving this unit standard will be able to perform routine operations under supervision and identify basic problems within a defined hydroponic production context.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

It is assumed that a learner attempting this unit standard will demonstrate competence against the unit standards or equivalent:

- NQF 1: Perform basic routine operations in a defined hydroponic context.
- NQF 2: Utilise and perform minor repairs and maintenance tasks on implements, equipment and infrastructure.

UNIT STANDARD RANGE

Whilst range statements have been defined generically to include as wide a set of alternatives as possible, all range statements should be interpreted within the specific context of application.

Range statements are neither comprehensive nor necessarily appropriate to all contexts. Alternatives must however be comparable in scope and complexity. These are only as a general guide to scope and complexity of what is required.

Specific Outcomes and Assessment Criteria:

SPECIFIC OUTCOME 1

Identify various growing media.

OUTCOME RANGE

The range of growing media to be identified include but are not limited to wood shavings, pine bank, peat, perlite, gravel, vermiculite, unica, rock wool, coconut peat, etc.

The identification should be limited to specific production contexts.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

The ability to identify different types of growing media is demonstrated.

SPECIFIC OUTCOME 2

Plants are manipulated as per instruction in the hydroponic production system.

OUTCOME RANGE

- Manipulation includes but is not limited to pruning; trellising, spraying chemical manipulates/plant growth regulators as per instruction.
- The range of crops includes but is not limited to vegetables and flowers.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

The ability to prune the crop appropriately is demonstrated.

ASSESSMENT CRITERION 2

The ability to trellis the crop appropriately is demonstrated.

ASSESSMENT CRITERION 3

The ability to spray the crop appropriately is demonstrated.

SPECIFIC OUTCOME 3

Identify and report basic problems in the production system.

OUTCOME RANGE

The range of basic problems includes but is not limited to blockages, leaks in the irrigations system, and visible problems in the crop e.g. wilting, pest and disease damage and problems in the structure.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

The ability to identify problems in the production system is demonstrated.

ASSESSMENT CRITERION 2

The ability to report problems is demonstrated.

ASSESSMENT CRITERION 3

The ability to differentiate between healthy and unhealthy looking plants is demonstrated.

SPECIFIC OUTCOME 4

Basic understanding of hydroponics.

OUTCOME RANGE

Basic concept of hydroponics is explained and bag versus bed culture identified.

ASSESSMENT CRITERIA

ASSESSMENT CRITERION 1

Hydroponic production is defined.

ASSESSMENT CRITERION 2

Open and closed systems are identified.

UNIT STANDARD ACCREDITATION AND MODERATION OPTIONS

The assessment of qualifying learners against this standard should meet the requirements of established assessment principles.

It will be necessary to develop assessment activities and tools, which are appropriate to the contexts in which the qualifying learners are working. These activities and tools may include an appropriate combination of self-assessment and peer assessment, formative and summative assessment, portfolios and observations etc.

The assessment should ensure that all the specific outcomes; critical cross-field outcomes and essential embedded knowledge are assessed.

The specific outcomes must be assessed through observation of performance. Supporting evidence should be used to prove competence of specific outcomes only when they are not clearly seen in the actual performance.

Essential embedded knowledge must be assessed in its own right, through oral or written evidence and cannot be assessed only by being observed.

The specific outcomes and essential embedded knowledge must be assessed in relation to each other. If a qualifying learner is able to explain the essential embedded knowledge but is unable to perform the specific outcomes, they should not be assessed as competent. Similarly, if a qualifying learner is able to perform the specific outcomes but is unable to explain or justify their performance in terms of the essential embedded knowledge, then they should not be assessed as competent.

Evidence of the specified critical cross-field outcomes should be found both in performance and in the essential embedded knowledge.

Performance of specific outcomes must actively affirm target groups of qualifying learners, not unfairly discriminate against them. Qualifying learners should be able to justify their performance in terms of these values.

- Anyone assessing a learner against this unit standard must be registered as an assessor with the relevant ETQA.
- Any institution offering learning that will enable achievement of this unit standard or assessing this unit standard must be accredited as a provider with the relevant ETQA.
- Moderation of assessment will be overseen by the relevant ETQA according to the moderation guidelines in the relevant qualification and the agreed ETQA procedures.

UNIT STANDARD ESSENTIAL EMBEDDED KNOWLEDGE

The person is able to demonstrate a basic knowledge of:

- Basic literacy and numeracy at NQF2.

- Recognising healthy crops in the specific production environment.

UNIT STANDARD DEVELOPMENTAL OUTCOME

N/A

UNIT STANDARD LINKAGES

N/A

Critical Cross-field Outcomes (CCFO):

UNIT STANDARD CCFO IDENTIFYING

Problem Solving: relates to specific outcomes:

- Identify various growing media.
- Manipulate plants as per instruction in the hydroponic production system.

UNIT STANDARD CCFO WORKING

Teamwork: relates to specific outcomes:

- Identify various growing media.
- Manipulate plants as per instruction in the hydroponic production system.

UNIT STANDARD CCFO ORGANISING

Self-management: relates to specific outcome:

- Manipulate plants as per instruction in the hydroponic production system.

UNIT STANDARD CCFO COLLECTING

Interpreting Information: relates to specific outcomes:

- Identify various growing media.
- Manipulate plants as per instruction in the hydroponic production system.

UNIT STANDARD CCFO COMMUNICATING

Communication: relates to specific outcome

- Manipulate plants as per instruction in the hydroponic production system.

UNIT STANDARD CCFO SCIENCE

Science and Technology: relates to specific outcomes:

- Identify various growing media.
- Manipulate plants as per instruction in the hydroponic production system.

UNIT STANDARD CCFO DEMONSTRATING

The world as a set of related systems: relates to specific outcomes:

- Identify various growing media.
- Manipulate plants as per instruction in the hydroponic production system.

Inter-relatedness of Systems: relates to specific outcomes:

- Identify various growing media.
- Manipulate plants as per instruction in the hydroponic production system.

UNIT STANDARD CCFO CONTRIBUTING

Self-development: relates to specific outcomes:

- Identify various growing media.
- Manipulate plants as per instruction in the hydroponic production system.

QUALIFICATIONS UTILISING THIS UNIT STANDARD:

	ID	QUALIFICATION TITLE	PRE-2009 NQF LEVEL	NQF LEVEL	STATUS	END DATE	QUALITY ASSURING BODY
Elective	48977	National Certificate: Mixed Farming Systems	Level 2	NQF Level 02	Reregistered	2015-06-30	AgriSETA
Elective	48975	National Certificate: Plant Production	Level 2	NQF Level 02	Reregistered	2015-06-30	AgriSETA