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

**Produce crop in a hydroponic system**

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>			
116314	Produce crop in a hydroponic system			
<b>ORIGINATOR</b>		<b>ORIGINATING PROVIDER</b>		
SGB Primary Agriculture				
<b>QUALITY ASSURING BODY</b>				
-				
<b>FIELD</b>			<b>SUBFIELD</b>	
Field 01 - Agriculture and Nature Conservation			Primary Agriculture	
<b>ABET BAND</b>	<b>UNIT STANDARD TYPE</b>	<b>PRE-2009 NQF LEVEL</b>	<b>NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	NQF Level 04	4
<b>REGISTRATION STATUS</b>		<b>REGISTRATION START DATE</b>	<b>REGISTRATION END DATE</b>	<b>SAQA DECISION NUMBER</b>
Reregistered		2012-07-01	2015-06-30	SAQA 0695/12
<b>LAST DATE FOR ENROLMENT</b>		<b>LAST DATE FOR ACHIEVEMENT</b>		
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 supervise activities in a hydroponic farming operation, through an understanding of hydroponic systems.

**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 2: Perform routine operations and identify basic problems in a hydroponic system.

**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 the properties of various growing media, for their use different hydroponic production contexts.

#### **OUTCOME RANGE**

- Growing media include but are not limited to gravel, sawdust, rock wool, expanded clay, coco peat, perlite, vermiculite, etc.
- Growing media characteristics water holding capacity, lifespan, re-usability, level of compaction, etc.

### **ASSESSMENT CRITERIA**

#### **ASSESSMENT CRITERION 1**

Open and closed hydroponic systems are differentiated.

#### **ASSESSMENT CRITERION 2**

The characteristics of the growing media are described.

#### **ASSESSMENT CRITERION 3**

The characteristics of different growing media to specific hydroponic crop production contexts are related.

### **SPECIFIC OUTCOME 2**

Prepare fertilizer / nutrient solution as per instructions.

### **ASSESSMENT CRITERIA**

#### **ASSESSMENT CRITERION 1**

Fertilization/nutrient solution for different systems and its application as scheduled are prepared.

#### **ASSESSMENT CRITERION 2**

Nutrients for the fertilization solution include all chemicals, salts or combination thereof, usually used in hydroponic crop production irrigation systems include injection and bulk tank systems, are described.

#### **ASSESSMENT CRITERION 3**

The correct quantities of nutrients are applied.

#### **ASSESSMENT CRITERION 4**

The correct mixing procedures for nutrients are applied.

### **SPECIFIC OUTCOME 3**

Monitor PH and EC of the fertilizer solution.

#### **OUTCOME RANGE**

The appropriate PH and EC range for all crops. The ideal PH and EC of different group of crops (leafy, fruit bearing, flowers, etc.) must be determined.

### **ASSESSMENT CRITERIA**

**ASSESSMENT CRITERION 1**

The PH and EC range for specific crops are identified.

**ASSESSMENT CRITERION 2**

Ph and EC instruments calibrate according to the concepts of PH and EC.

**SPECIFIC OUTCOME 4**

Identify the characteristics of the hydroponic operation structure.

**OUTCOME RANGE**

Hydroponic structure, equipment and crop.

**ASSESSMENT CRITERIA****ASSESSMENT CRITERION 1**

Different hydroponic structures are identified and explained.

**ASSESSMENT CRITERION 2**

Different erection covering materials and uses thereof are identified and explained.

**ASSESSMENT CRITERION 3**

Different equipment/systems used for climate control are identified and explained.

**ASSESSMENT CRITERION 4**

Problems in the hydroponic production systems are identified and solved.

**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.



Elective	<a href="#">49052</a>	National Certificate: Plant Production	Level 3	NQF Level 03	Reregistered	2015-06-30	AgriSETA
Elective	<a href="#">49009</a>	National Certificate: Plant Production	Level 4	Level TBA: Pre-2009 was L4	Reregistered	2015-06-30	AgriSETA