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

**Manage a hydroponic production unit**

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>			
116383	Manage a hydroponic production unit			
<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 5	Level TBA: Pre-2009 was L5	10
<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 manage a hydroponic production unit.

**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 level 4: Produce crop 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**

Demonstrate a thorough understanding of the hydroponic production environment.

#### **OUTCOME RANGE**

Production environment includes but is not limited to tunnels with various covering materials, shade netting, framework and environmental control systems.

#### **ASSESSMENT CRITERIA**

##### **ASSESSMENT CRITERION 1**

An understanding of the effect of different structures on the enclosed environment is demonstrated.

##### **ASSESSMENT CRITERION 2**

The ability to relate and manage structures and equipment to a range of crops for different climatic zones is demonstrated.

##### **ASSESSMENT CRITERION 3**

Appropriate growing media for a range of crops is explained.

### **SPECIFIC OUTCOME 2**

Demonstrate a thorough understanding of crop's fertilization requirements.

#### **OUTCOME RANGE**

Fertilization includes but is not limited to the composition of the nutrient solution and the application frequency.

#### **ASSESSMENT CRITERIA**

##### **ASSESSMENT CRITERION 1**

Ideal / appropriate nutrient solutions for specific crops are formulated.

##### **ASSESSMENT CRITERION 2**

The ability to evaluate leaf and water analysis results is demonstrated.

##### **ASSESSMENT CRITERION 3**

The ability to adjust nutrient solutions as required by crop growth stage, climatic conditions and leaf / water analysis is demonstrated.

### **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:

- Hydroponic systems.
- Plant nutrition.
- Plant health (Plant pest and disease control).
- Report writing.
- Procedures involved in the treatment of prevention of plant irregularities (physiological and other).
- Basic understanding of chemical concepts.

#### **UNIT STANDARD DEVELOPMENTAL OUTCOME**

N/A

#### **UNIT STANDARD LINKAGES**

N/A

### **Critical Cross-field Outcomes (CCFO):**

#### **UNIT STANDARD CCFO IDENTIFYING**

Problem Solving: relates to all specific outcomes.

#### **UNIT STANDARD CCFO WORKING**

Teamwork: relates to all specific outcomes.

#### **UNIT STANDARD CCFO ORGANISING**

Self-management: relates to all specific outcomes.

#### **UNIT STANDARD CCFO COLLECTING**

Interpreting Information: relates to all specific outcomes.

**UNIT STANDARD CCFO COMMUNICATING**

Communication: relates to all specific outcomes.

**UNIT STANDARD CCFO SCIENCE**

Science and Technology: relates to all specific outcomes.

**UNIT STANDARD CCFO DEMONSTRATING**

Inter-relatedness of Systems: relates to all specific outcomes.

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

**UNIT STANDARD CCFO CONTRIBUTING**

Self-development: relates to all specific outcomes.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD:**

	<b>ID</b>	<b>QUALIFICATION TITLE</b>	<b>PRE-2009 NQF LEVEL</b>	<b>NQF LEVEL</b>	<b>STATUS</b>	<b>END DATE</b>	<b>QUALITY ASSURING BODY</b>
Elective	<a href="#">49010</a>	National Diploma: Plant Production	Level 5	NQF Level 05	Reregistered	2015-06-30	AgriSETA