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

**Plan and maintain environmentally sound agricultural processes**

<b>SAQA US ID</b>	<b>UNIT STANDARD TITLE</b>			
116320	Plan and maintain environmentally sound agricultural processes			
<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>OLD NQF LEVEL</b>	<b>NEW NQF LEVEL</b>	<b>CREDITS</b>
Undefined	Regular	Level 4	NQF Level 04	8
<b>REGISTRATION STATUS</b>		<b>REGISTRATION START DATE</b>	<b>REGISTRATION END DATE</b>	<b>SAQA DECISION NUMBER</b>
Reregistered		2009-07-01	2012-06-30	SAQA 0480/09
<b>LAST DATE FOR ENROLMENT</b>		<b>LAST DATE FOR ACHIEVEMENT</b>		
2013-06-30		2016-06-30		

*In all of the tables in this document, both the old and the new NQF Levels are shown. In the text (purpose statements, qualification rules, etc), any reference to NQF Levels are to the old 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**

The learner will be able to identify knowledge processes and patterns of the environment in the region, and will understand the limitations of resources and how their management contributes to sustainable interactive agriculture, using environmental indicators.

Competent learners will be conversant with main agricultural regulations and aspects of safety, providing the environment for the application of quality practices.

**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 unit standard:

- "Incorporate basic concepts of sustainable farming systems into practical farming activities", (NQF 3) or equivalent.

#### **UNIT STANDARD RANGE**

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**

Plan and maintain sustainable agricultural processes and/or practices taking into account the four components of the environment.

#### **OUTCOME RANGE**

Components include social, political, biophysical and economic.

#### **ASSESSMENT CRITERIA**

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

Plans to protect the various vegetation types and local animals are implemented.

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

Patterns of the environment are observed and described.

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

Veld types and their sensitivities are identified and explained.

##### **ASSESSMENT CRITERION 4**

An understanding of weather patterns is demonstrated.

##### **ASSESSMENT CRITERION 5**

Critical species of fauna and flora are identified.

#### **SPECIFIC OUTCOME 2**

Demonstrate broad knowledge of the processes of the environment.

#### **OUTCOME RANGE**

Relates to soil, climate, water and natural resources (fauna and flora).

#### **ASSESSMENT CRITERIA**

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

Wild life corridors are identified and developed.

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

An understanding of the interactions between eco-systems and agriculture is demonstrated.

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

An awareness of the main legal regulations governing agriculture and the environment is demonstrated.

### **SPECIFIC OUTCOME 3**

Apply practical and efficient natural resource use in an agricultural context.

#### **OUTCOME RANGE**

Relates to soil, climate, water and natural resources (fauna and flora).

#### **ASSESSMENT CRITERIA**

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

An understanding of natural resources and their uses is demonstrated.

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

Poorly used resources (e.g. waste) are identified.

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

Conventional energy resources are identified.

##### **ASSESSMENT CRITERION 4**

Limitations to resources are explained.

##### **ASSESSMENT CRITERION 5**

Possible alternative energy resources are identified and explained.

### **SPECIFIC OUTCOME 4**

Understand sustainable agriculture.

#### **ASSESSMENT CRITERIA**

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

Soil fertility is assessed and problems are remedied by addressing the long-term soil fertility constraints.

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

Biological pest control and integrated pest management systems are investigated.

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

The different pollination processes are investigated and supported.

##### **ASSESSMENT CRITERION 4**

Applications of natural fertilisers are developed and applied.

##### **ASSESSMENT CRITERION 5**

Water conservation methods are investigated and implemented.

##### **ASSESSMENT CRITERION 6**

Soil conservation methods are investigated and implemented.

##### **ASSESSMENT CRITERION 7**

Crop rotation and inter-cropping are investigated and implemented.

##### **ASSESSMENT CRITERION 8**

Rotational veld and pasture management are investigated and implemented.

#### **SPECIFIC OUTCOME 5**

Identify and use environmental indicators.

#### **OUTCOME RANGE**

Relates to soil, climate, water and natural resources (fauna and flora).

#### **ASSESSMENT CRITERIA**

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

The signs of land degradation is recognised and remedied.

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

Soil erosion control is observed, interpreted and explained.

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

Invasion is identified and a control strategy for invasive species is developed.

##### **ASSESSMENT CRITERION 4**

Indicator veld species in relation to natural succession is identified.

##### **ASSESSMENT CRITERION 5**

Basic cover is measured and assessed.

#### **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:

- Communicate with farmers, service providers, researchers, NGO's, clients and market agents.
- Compile simple reports and write basic business letters.
- Identify and recognise the ecological, social and economic environment - locally, regionally and internationally (local ecological drivers such as H-cycle, C-cycle, etc., soil diversity, weather and climate patterns, biodiversity, etc).
- Economically the income sources and cost factors should be recognised - local market sources should receive specific attention. The above should be applied to the regional and international environment with specific attention to business and organisations operating and impacting locally.
- Systems approach to life - definitions of systems like ecosystems, the importance of agriculture as an "open system", the dynamics of role players within these systems.
- The interrelationships between the various regional and international systems.
- The concept sustainability and its applicability to agriculture and conservation.
- Recognise the importance of the relatedness between social, ecological and economic environment as well as the identification of risk factors at all levels.
- Knowledge should be demonstrated on the holistic nature of the whole farming system. All income sources, cost-factors, human influences and actors should be recognised.
- The legal environment as well as the economic and biological environment should be recognised in order to be aware of present and potential risks.
- A system approach should be used to plan and monitor productivity from level through the acknowledgement of the interrelatedness of ecosystems and its biological actors with the economic and social environments. This knowledge should be recognised within business plans enabling the learner to understand the rationale of a business plan.
- Awareness and understanding of how to measure the productivity of farming systems. This includes the identification of indicators (social, economic, ecological) in order to plan better. A simple managerial information system should be available in order to make rational decisions at local level.

#### **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 ORGANISING**

Self-organisation and management relates to all specific outcomes.

**UNIT STANDARD CCFO COLLECTING**

Information evaluation relates to all specific outcomes.

**UNIT STANDARD CCFO COMMUNICATING**

Communication relates to all specific outcomes.

**UNIT STANDARD CCFO SCIENCE**

Use science and technology relates to all specific outcomes.

**UNIT STANDARD CCFO DEMONSTRATING**

Inter-relatedness of systems relates to all specific outcomes.

**QUALIFICATIONS UTILISING THIS UNIT STANDARD:**

	ID	QUALIFICATION TITLE	OLD LEVEL	NEW LEVEL	STATUS	END DATE	QUALITY ASSURING BODY
Fundamental	<a href="#">48979</a>	National Certificate: Animal Production	Level 4	New Level Assignment Pend.	Reregistered	2012-06-30	AgriSETA
Fundamental	<a href="#">49009</a>	National Certificate: Plant Production	Level 4	New Level Assignment Pend.	Reregistered	2012-06-30	AgriSETA

**PROVIDERS CURRENTLY ACCREDITED TO OFFER THIS UNIT STANDARD:**

*This information shows the current accreditations (i.e. those not past their accreditation end dates), and is the most complete record available to SAQA as of today. Some Quality Assuring Bodies have a lag in their recording systems for provider accreditation, in turn leading to a lag in notifying SAQA of all the providers that they have accredited to offer qualifications and unit standards, as well as any extensions to accreditation end dates. The relevant Quality Assuring Body should be notified if a record appears to be missing from here.*

**NONE**

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