

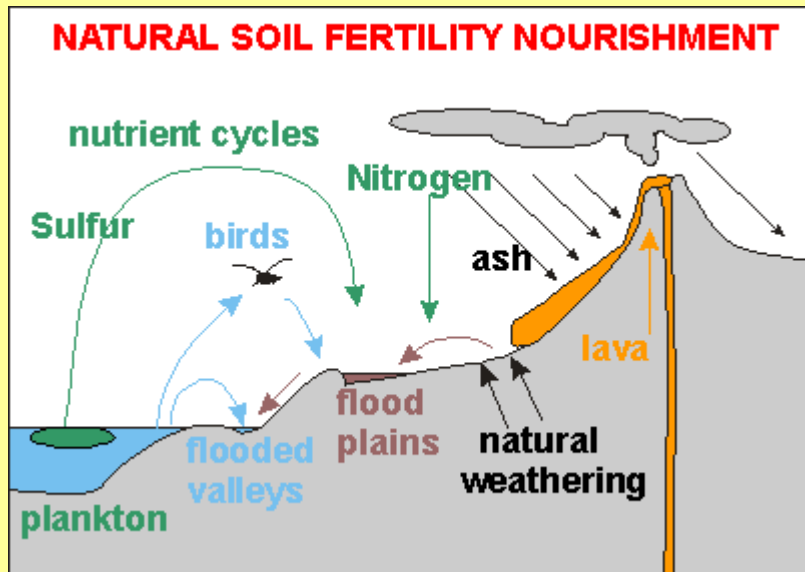


NQF Level: 1 US No: 13355

Assessment Guide

Primary Agriculture

The environment and its relationship to sustainable crop production



Assessor:

Workplace / Company:

Commodity: Date:

Before we start...

This assessment guide contains all necessary activities and instructions that will enable the assessor and learner to gather evidence of the learner's competence as required by the unit standard. This guide was designed to be used by a trained and accredited assessor whom is registered to assess this specific unit standard as per the requirements of the AgriSETA ETQA.

Prior to the delivery of the program the facilitator and assessor must familiarise themselves with content of this guide, as well as the content of the relevant Learner Workbook.

The assessor, facilitator and learner must plan the assessment process together, in order to offer the learner the maximum support, and the opportunity to reflect competence.

The policies and procedures that are required during the application of this assessment are available on the website of the AgriSETA and should be strictly adhered to. The assessor must familiarise him/herself with this document before proceeding.

This guide provides step-by-step instructions for the assessment process of:

Title:		
US No: 13355	NQF Level: 1	Credits: 4

This unit standard is one of the building blocks in the qualification listed below. Please mark the qualification you are currently assessing, because that will be determined by the context of application:

Title	ID Number	NQF Level	Credits	Mark
National Certificate in Animal Production	48970	1	120	<input type="checkbox"/>
National Certificate in Mixed Farming Systems	48971	1	120	<input type="checkbox"/>
National Certificate in Plant Production	48972	1	120	<input type="checkbox"/>

Please mark the learning program you are enrolled in:

Are you enrolled in a:	Y	N
Learnership?	<input type="checkbox"/>	<input type="checkbox"/>
Skills Program?	<input type="checkbox"/>	<input type="checkbox"/>
Short Course?	<input type="checkbox"/>	<input type="checkbox"/>

Note to Assessor:

If you are assessing this module as part of a full qualification or learnership, please ensure that you have familiarized yourself with the content of the qualification.



1

SO 1

Instructions to learner:

Brainstorm as a group and note your findings

Learner Workbook: Page 3 Facilitator Guide: Page 10

Model answers:

Why is soil important for our crop?

- Soil provides anchorage for plant
- Soil supplies water, minerals, air to plants
- Harbours beneficial organisms that benefit plants



2

SO 1

Instructions to learner:

Discuss in your group and record key ideas

Learner Workbook: Page 4 Facilitator Guide: Page 10

Model answers:

Do you think that all types of soil are the same? Think about the different types, colours and textures of soils.

- No, soils differ in texture, structure & composition
- Soils differ in particle size
- Soils hold & drain water differently

My Notes ...

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SO 1 & 2

Instructions to learner: Individual and Group work: Go outside, collect samples and write down your observations: **What you describe here is called the "texture" of soil.**

Learner Workbook: Page 5 Facilitator Guide: Page 10

Describe next to each sample how they "feel".

What you describe here is called the "texture" of soil.

Texture

The coarseness or fineness of the soil.

Sand Particles

The largest of the soil particles. It is huge when it is compared to clay.

Silt Particles

This is the medium-sized soil particle. It is between sand and clay in size.

Clay particles

Very fine soil particles.

Sand, silt, and clay are names that describe the size of individual particles in the soil.

Sand is the largest particles and they feel "gritty."

Silt is medium sized, and they feel soft, silky or "floury."

Clay is the smallest sized particles, and they feel "sticky" and they are hard to squeeze.

- **Sand** (excluding gravel) is the largest of the soil particles.
When you rub it, it feels rough.
This is because it has sharp edges.
Sand doesn't hold many nutrients or a lot of water
- **Silt** is a soil particle whose size is between sand and clay.
Silt feels smooth and powdery.
When wet it feels smooth but not sticky.
- **Clay** is the smallest of the soil particles.
Clay is smooth when dry and sticky when wet.
Soils high in clay content are called heavy soils.
Clay also can hold a lot of water and nutrients, but too much water can replace the air.
- **Particle size** has a lot to do with a soil's drainage and nutrient holding capacity.

To better understand how big these three soil particles are, think of them like this.

If a particle of sand were the size of a soccer ball, then silt would be the size of a tennis ball, and clay would be the size of a table tennis ball.

Line them all up, and you can see how these particles compare in size ratio.

4**SO 1 & 2**

Instructions to learner: Record your answers in your learner workbook. As a group – go to the area where you will be doing your soil preparation and planting activities.

Learner Workbook: Page 6 Facilitator Guide: Page 10

Model Answers:

How will you classify soil types?

Model Answer(s):

Classify soil on texture, structure, drainage, water holding capacity.

5**SO 1 & 2**

Instructions to learner: As a group – look at the picture below and discuss the questions below. Record your answers.

Learner Workbook: Page 7 Facilitator Guide: Page 10

Describe how the soil cycle works, and how the soil cycle is related to the organic content of the soil.

Model Answer(s):

Herbivores feed off vegetation growing in soil; carnivores eat herbivores; excretion from herbivores/carnivores land on soil & become part of organic content of soil; herbivores & carnivores die & become part of organic content of soil through microbial activity

6**SO 1 & 2**

Instructions to learner: Apply and observe: As a group – go to the area where you will be doing your soil preparation and planting activities.

Learner Workbook: Page 9 Facilitator Guide: Page 10

How will you go about preparing the soil ensuring that it is ready to allow your crop to grow?

Model Answer(s):

Soil preparation could include breaking up large structures, tilling, ripping, improving soil chemically, installing drainage, etc.

7**SO 3**

Instructions to learner:

Research and discover

Learner Workbook: Page 10 Facilitator Guide: Page 13

Model Answers:

Describe “the climate” in your area?

Model Answer(s):

Average annual rainfall; average seasonal high & low temperatures; Average wind direction, etc.

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SO 3

**Instructions to learner: In pairs – Research and discover:
Record your answers in your learner workbook**

Learner Workbook: Page 11 Facilitator Guide: Page 13

Model Answers:

What kinds of crops are grown in your area as animal feed?

Model Answer(s):

Animal feeds can be any from lupines, grasses, Lucerne, oats, canola, etc.

Does this kind of animal feed need a "specific" climate in order to grow?

Model Answer(s):

Most feeds grow in specific climate zones & are seasonal

Explain what kinds of climatic conditions are needed for growing apples and grapes?

Model Answer(s):

Apples require specific cold conditions; grapes need cold for dormancy

My Notes ...

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SO 4

Instructions to learner: Group activity: Research and discover: - Record your answers in your learner workbook

Learner Workbook: Page 12 Facilitator Guide: Page 15

Model Answers:

Make a list of all the possible water sources in your area?

Model Answer(s):

Water sources include source water, boreholes, dams, lakes, rivers, canals, fountains & springs

Will the water sources be sufficient to grow crops for commercial farming purposes?

Model Answer(s):

Sufficiency of source depends on crop requirement and volumes of water available; water sources could also be subject to environmental legislation in terms of volume available and suitability for crop production

My Notes ...

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Instructions to learner: Research and discover:

Record your answers in your learner workbook

Learner Workbook: Page 13 Facilitator Guide: Page 15

Model Answers:

Make a list of all the possible water sources in your area?

Model Answer(s):

Water sources include source water, boreholes, dams, lakes, rivers, canals, fountains & springs

Make a list of possible methods of irrigating crops?

Model Answer(s):

Micro-irrigation, flood irrigation, over-head sprinklers, pop-up sprinklers, watering cans, hosepipes

My Notes ...

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11**SO 5****Instructions to learner: Group Activity:****Record your answers in your learner workbook****Learner Workbook: Page 14 Facilitator Guide: Page 17****Model Answers:**

Make a list of possible problems that you might find in trying to cultivate a land with a steep slope?

Model Answer(s):

Problems with steep slopes: Shallow soils; poor soils; erosion; problems with vehicle movement & difficult cultivation

12**SO 5****Instructions to learner: Brainstorm and record your answers in your learner workbook****Learner Workbook: Page 15 Facilitator Guide: Page 17**

How will overcome unfavourable topographical conditions to plant crops/grazing?

Model Answer(s):

Contour ploughing, construct terraces, pack erosion controls

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SO 6

Instructions to learner: Group Activity: -

Brainstorm and record your answers in your learner workbook

Learner Workbook: Page 16 Facilitator Guide: Page 19

Model Answers:

Make a poster of possible micro-organisms and insects that might harm your crop?

Model Answer(s):

As per learner's initiative and situation.

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SO 6

Instructions to learner: research and discover:

Brainstorm and record your answers in your learner workbook

Learner Workbook: Page 17 Facilitator Guide: Page 19

Make a list of "beneficial" insects in farming?

Model Answer(s):

Various beneficial insects exist, such as assassin bugs, praying mantis, lady bug that eats specific insects; bees help with pollination; certain territorial insects keep other insects away

My Notes ...

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15

SO 7

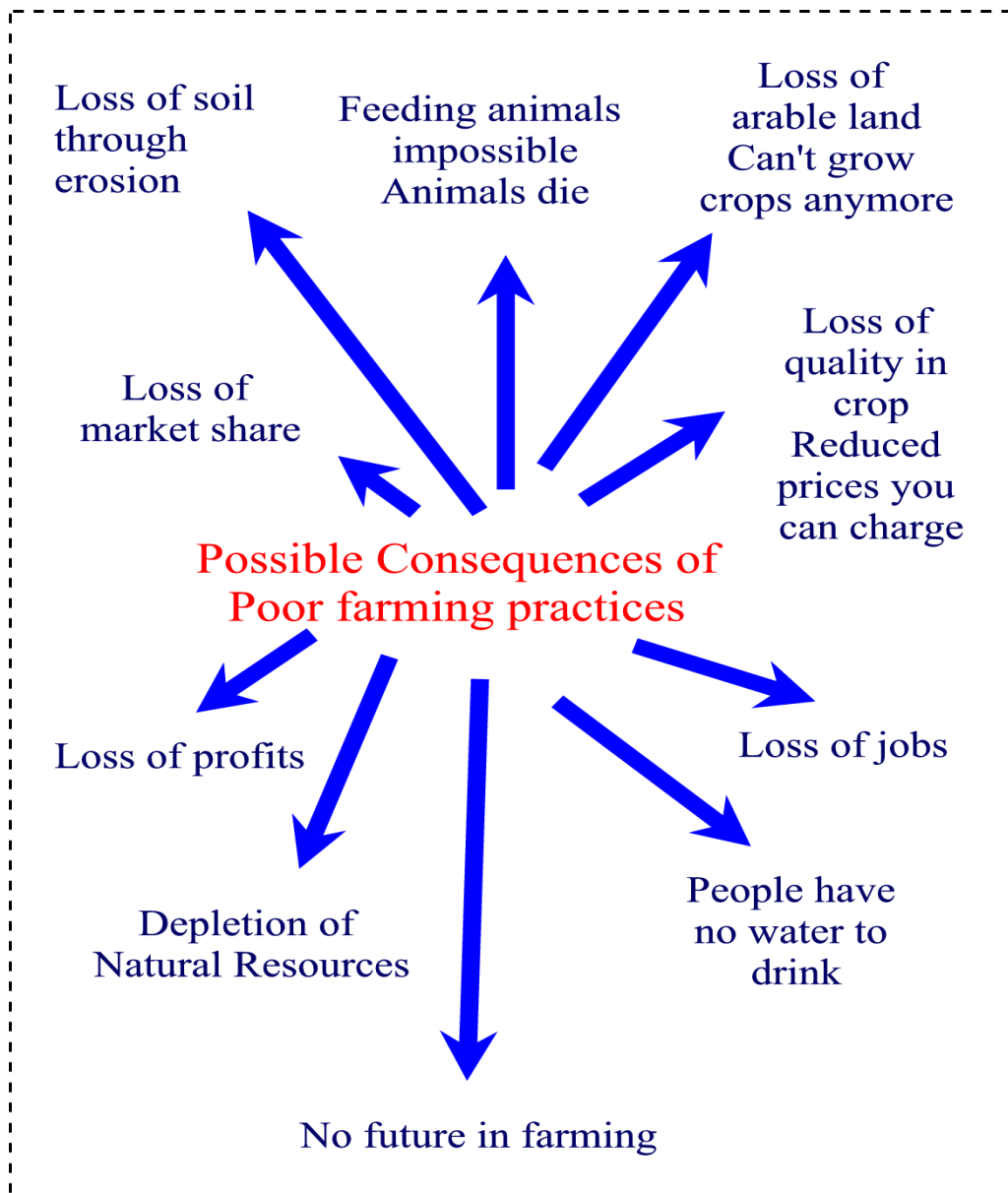
Instructions to learner: Discuss in the group:15

Record your answers in your learner workbook

Learner Workbook: Page 18 Facilitator Guide: Page ??-

Model Answers:

What would happen if we did not care for the environment and we did not farm sustainable?



Assessment Feedback Form

Comments / Remarks	
Feedback to learner on assessment:	
Feedback from learner to assessor:	
Learner's Signature:	Date:
Assessor's Signature:	Date:

Summative Test and Attitude & Attribute Evaluation

Before the knowledge test is undertaken, the learner must be reminded of what is expected from him / her in terms of summative and reflexive competence. Read and explain to the learner, the **Preparation for Your Final Assessment** section in the learner workbook. Learners and assessor should sign off this section to acknowledge that this step was completed.

Please set up a knowledge test from the questions given as a guideline to learners and supply each learner with a test sheet.

Supply each report with the following heading:

Unit Standard:	13355	NQF Level:	1
Learner Name:			

Questions	Model Answers
1. What kind of soil/s do you have on your farm?	According to learner circumstances.
2. What does the landscape look like? I.e. Topography & Slope	
3. In what direction does the slope run?	
4. What kinds of water resources are there on your farm?	
5. What kinds of indigenous plant life do you have on your farm?	
6. Are there any invasive species of plants on your farm? Name them?	
7. What is the climate like in the area where you live?	
8. What types of crops are suitable for this type of climate?	

Questions	Model Answers
9. What is the prevailing wind direction on your farm?	According to learner circumstances.
10. What influence do you think this will have on your types of crops and how you plant?	
11. Are there fences on your farm? Why do you think it is important to have these?	
12. Are there any other structures that can specifically help you to farm effectively? Hint... think of things like dams, barns and irrigation systems, pumphouses etc	
13. Say how these structures help in the day-to-day operations of farming	

My Notes ...

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Assessment Feedback Form

Comments / Remarks	
<p>Feedback to learner on assessment and / or overall recommendations and action plan for competence:</p>	
<p>Feedback from learner to assessor:</p>	
<p>Assessment Judgement You have been found:</p> <p><input type="radio"/> Competent</p> <p><input type="radio"/> Not yet competent in this unit standard</p>	<p>Actions to follow:</p> <p><input type="radio"/> Assessor report to ETQA</p> <p><input type="radio"/> Learner results and attendance certification issued</p>
<p>Learner's Signature:</p>	<p>Date:</p>
<p>Assessor's Signature:</p>	<p>Date:</p>
<p>Moderator's Signature:</p>	<p>Date:</p>