

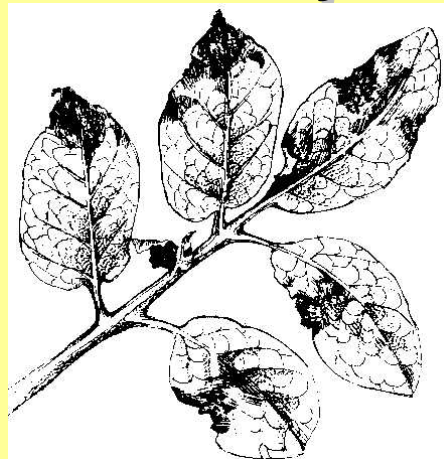


NQF Level: **1** US No: **116204**

Assessment Guide

Primary Agriculture

Recognise Pests, diseases and weeds on crops



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: Recognise pests, diseases and weeds on crops
US No: 116204 NQF Level: 1 Credits: 5

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 with your group.

Learner Workbook: Page 3

Facilitator Guide: Page 12

1. What is the difference between a grasshopper (an insect) and a dog? Explain it with examples.

Model Answer(s):

- **Insect:** cold blooded, exoskeleton, 3 pairs of legs, antennae, wings, compound eyes.
- **Dog:** warm blooded, internal skeleton & backbone, 2 pairs of legs, singular eyes



2

SO 1

Instructions to learner:

Discuss with a partner.

Learner Workbook: Page 4

Facilitator Guide: Page 14

1. Why do you think some insects have wings and others don't?

Model Answer(s):

For survival/procreation some need to fly.

My Notes ...

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SO 2

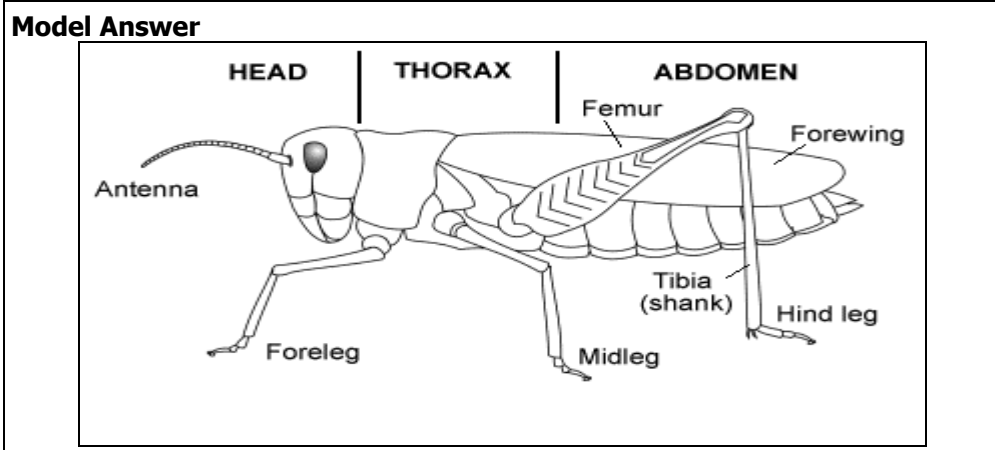
Instructions to learner:

Individual exercise.

Learner Workbook: Page 5

Facilitator Guide: Page 15

1. On the picture of an insect, show the different parts.



My Notes ...

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SO 2

Instructions to learner:

Individual exercise.

Learner Workbook: Page 6

Facilitator Guide: Page 16

Answer the questions in your own words.

1. Do insects have mouths that look like ours? Explain

Model Answer(s):

No, their mouths consist of different chewing parts, some have adapted sucking mouthparts.

2. What do insects do with their mouths? Give examples.

Model Answer(s):

Suck-butterflies; chew-grasshopper; gather plant material-wasp.

3. Do insects have legs that look like ours? Explain.

Model Answer(s):

No, segmented legs supported on the outside by an exoskeleton & 3 pairs of legs.

4. What do insects use their legs for? Give examples.

Model Answer(s):

Walking-ants; jumping-grasshopper.

5. Do insects have wings that look like the wings of a bird? Explain.

Model Answer(s):

No; wings usually an extension of the exodermis, transparent & veined.

6. What do insects use their wings for? Give examples.

Model Answer(s):

Flight-bees, butterfly.

Instructions to learner:

Choose an insect and show its life cycle on a diagram. Answer the questions

Learner Workbook: Page 7

Facilitator Guide: Page 16

1. Is the life cycle completely-metamorphic or not? Why?

Model Answer(s):

As per learner's choice of insect.

Complete Metamorphosis

About 88% of all insects go through complete metamorphosis. Complete metamorphosis has 4 stages:

- *Egg - A female insects lays eggs.*
- *Larva - Larvae hatch from the eggs. They do not look like adult insects. They usually have a worm-like shape Caterpillars, maggots, and grubs are all just the larval stages of insects. Larvae molt their skin several times and they grow slightly larger.*
- *Pupa - Larvae make cocoons around themselves. Larvae don't eat while they're inside their cocoons. Their bodies develop into an adult shape with wings, legs, internal organs, etc. This change takes anywhere from 4 days to many months.*
- *Adult - Inside the cocoon, the larvae change into adults. After a period of time, the adult breaks out of the cocoon. No, their mouths consist of different chewing parts, some have adapted sucking mouthparts.*

Incomplete Metamorphosis

About 12% of all insects go through incomplete metamorphosis. Incomplete metamorphosis has 3 stages.

- *Egg - A female insect lays eggs. These eggs are often covered by an egg case which protects the eggs and holds them together.*
- *Nymph - The eggs hatch into nymphs. Nymph's looks like small adults, but usually don't have wings. Insect nymphs eat the same food that the adult insect eats. Nymphs shed or molt their exoskeletons (outer casings made up of a hard substance called chitin) and replace them with larger ones several times as they grow. Most nymphs molt 4-8 times.*
- *Adult - The insects stop molting when they reach their adult size. By this time, they have also grown wings.*

2. Give an example of insect that has the opposite life cycle of your insect. How is its life cycle different?

Model Answer(s):

As per learner's choice

3. How would the stage of the life cycle that the insect is in, affect how it can be controlled?

Model Answer(s):

Specific control at specific times, some chemicals or predators only work in on specific stages of the life cycle

6

SO 4

Instructions to learner:
Individual exercise

Learner Workbook: Page 9 Facilitator Guide: Page 16

1. Give an example for each of the following that damages the crop that you are growing, and explain how this insect is

Model Answer: *As per learner's choice*

<i>Type of Insect</i>	<i>Example</i>	<i>How it is controlled?</i>
An insect that eats the plant.		
An insect that sucks plant sap.		
An insect that lays eggs and whose larvae damage the plant.		
An insect that stings the plant.		
An insect that is a vector for a plant disease.		

My Notes ...

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SO 5

Instructions to learner:

Write a paragraph.

Learner Workbook: Page 10

Facilitator Guide: Page

- How do you scout for and recognize harmful insects on the farm where you are completing your practical work?

Model Answer(s):

As per farm procedure.

- What kind of damage can you see when harmful insects attack the crop?

Model Answer(s):

Visible damage, wilting, deterioration, loss of plant structures.

- Who do you have to report the symptoms to if you see it?

Model Answer(s):

As per farm procedure.

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SO 5

Instructions to learner:

Explain to a co-worker.

Learner Workbook: Page 11

Facilitator Guide: Page 16

- If you are working with chemicals to control insects, explain what you have to wear and why you have to wear this.

Model Answer(s):

As per chemical prescription.

- Explain what rules you have to keep and why you have to keep to these rules.

Model Answer(s):

As per chemical prescription/farm protocol.

9**SO 6****Instructions to learner:**

Write a paragraph.

Learner Workbook: Page 12**Facilitator Guide: Page 17**

1. How do you scout for and recognize harmful insects on the farm where you are completing your practical work?

Model Answer(s):*As per farm procedure.*

2. What kind of damage can you see when harmful insects attack the crop?

Model Answer(s):*Visible damage, wilting, deterioration, loss of plant structures.*

3. Who do you have to report the symptoms to if you see it?

Model Answer(s):*As per farm procedure.***10****SO 6****Instructions to learner:**

Brainstorm with a partner.

Learner Workbook: Page 13**Facilitator Guide: Page 17**

1. Apart from insects, what other animals can damage the crop from the farm where you are performing your practical duties.

Model Answer(s):*As per plant.*

11**SO 6****Instructions to learner:**

Research.

Learner Workbook: Page 14**Facilitator Guide: Page 17**

Find an example and explain.

1. Find an example of a beneficial insect and explain how it is used in agriculture.

Model Answer(s):*As per choice of insect.***12****SO 7****Instructions to learner:**

Group discussion.

Learner Workbook: Page 15**Facilitator Guide: Page 19**

1. Explain in your own words what plant deficiencies are.

Model Answer(s):*A lack of specific minerals.*

2. Are plant deficiencies and plant diseases the same? Motivate your answer.

Model Answer(s):*No, plant deficiencies a nutrient deficiency while plant disease is caused by an organism.*

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SO 7

Instructions to learner:

Research.

Learner Workbook: Page 16

Facilitator Guide: Page 19

Speak to an expert and find out:

1. What are microbes?

Model Answer(s):

Microscopically small organisms such as viruses, fungi, bacteria, protozoa.

2. What kind of microbes are pests for the crop from the farm where you are performing your practical duties?

Model Answer(s):

As per crop.

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SO 7

Instructions to learner:

Draw a picture.

Learner Workbook: Page 17

Facilitator Guide: Page 19

Draw a picture of the life cycle of each of the following:

1. A fungus, virus and bacterium that attacks the plant from the farm where you are performing your practical duties

Model Answer(s):

As per fungus, virus and bacterium chosen

15**SO 8****Instructions to learner:**

Class discussion.

Learner Workbook: Page 18**Facilitator Guide: Page 20**

Have a class discussion and write down notes.

1. How do pests and diseases generally spread?

Model Answer(s):

- *Through vectors and*
- *With aid of wind, water, animals*

2. What can we do about limiting the spread of these pests and diseases?

Model Answer(s):

- *Control vectors*
- *create predatory insect environments,*
- *Work clean with equipment, etc.*

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:	116204	NQF Level:	1
Learner Name:			

Questions	Model Answers
Identify a pest found on the crop produced on the farm where you work that is caused by an insect	No model answers are supplied due to area variations.
How do you know it is an insect?	No model answers are supplied due to area variations.
How does this insect damage the plant?	No model answers are supplied due to area variations.
Draw a picture with labels of the basic shape of the insect.	No model answers are supplied due to area variations.
If there are beneficial insects that control this insect, what do you think these beneficial insects will do?	No model answers are supplied due to area variations.
How is this insect controlled?	No model answers are supplied due to area variations.
If you had a choice between chemical control and biological control of this insect, which would you choose? Why?	No model answers are supplied due to area variations.
What else can you do to control the insect?	No model answers are supplied

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>