



NQF Level: 3

US No: 116265

Facilitator Guide

Primary Agriculture

Pests, diseases and weeds



Facilitator:

Company:

Commodity: Date:

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agriculture

Department:
Agriculture
REPUBLIC OF SOUTH AFRICA



Before you get started...

Dear Facilitator,

This Facilitator Guide (together with the relevant Learner Guide) is aimed at facilitators who will be assisting learners wishing to complete the following unit standard:

Title: Monitor pests, diseases and weeds on crops
US No: 116265 NQF Level: 3 Credits: 2

This guide contains all necessary facilitation instructions to ensure that learners will attain the expected competencies required by the above-mentioned unit standard. This guide is designed to be used during the presentation of a learning session based on this unit standard. The full unit standard is attached at the end of the relevant Learner Guide. Learners are advised to read the unit standard at their time. Please discuss the unit standard with the learners to ensure that they understand what is expected from them to achieve the outcomes of the unit standard.

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

Title	ID Number	NQF Level	Credits	Mark
National Certificate in Animal Production	49048	3	120	<input type="checkbox"/>
National Certificate in Plant Production	49052	3	120	<input type="checkbox"/>

Please mark the learning program the learners 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 Facilitator:
If you are presenting this module as part of a full qualification or learnership, please ensure that you have familiarised yourself with the content of the qualification.

Please explain the above concepts to the learner.

There are three guides, namely the Learner Guide (with activities),

Assessor Guide and the Facilitator Guide.

These guides have been developed to address specific aspects of the learning experience. You therefore need to use these guides complementally to one another.

Make this an enjoyable learning experience!

Context of Application ...

Primary Agriculture is a diverse sector and a wide range of commodities is being produced for both national and international market. Each commodity has its own production requirements and practices. You will be facilitating the learning process within a specific context where a specific agricultural commodity is being produced. The learning material has been written in a **generic** manner, as it is aimed to be available on national level and should be relevant to be applied within a variety of commodities. It is therefore inclusive of all agricultural commodities and crop in this field. Therefore, the examples that are being used in the materials may not always be applicable to your specific community, commodity, environment or region.

This presents you, the facilitator, with the challenge to **contextualise** the learning material. It is imperative that you, the Facilitator and Assessor interpret and present activities, case studies and projects related to the material in such a way that learners can easily identify and apply their knowledge within their own context. This will require from you to add examples of crop, which are applicable to the community or farm. Learners must be guided with examples from their own communities, commodities, environment or regions. This should be done by complementing the learning material with:

- Examples relevant to the commodity,
- Including commodity specific requirements,
- Including operating procedures of the farm,
- Including agricultural practice specific requirements,
- Agricultural markets,
- Guiding learners to write these specifics down in the learning guide, etc.

The contextualisation of the learning material is a very important step in preparing for and facilitating the learning experience and enough time and effort should be put into this exercise.

According to the qualifications mentioned on page 2, this module could be contextualised to fit the following groups of commodities:

Plant Production	Animal Production	
<ul style="list-style-type: none"> • Organic production, • Hydroponic production, • Perma-culture production, • Agronomy, • Horticulture, • Natural resources harvesting. 	<ul style="list-style-type: none"> • Small stock production, • Large stock production, • Dairy production, • Pig production, • Poultry production, • Game, • Aqua / mari culture, • Commercial insects • Animal fibres harvesting, • Bee keeping, 	<ul style="list-style-type: none"> • Natural resources harvesting, • Organic production, • Perma-culture production, • Eco/Agri Tourism, • Agro Chemicals, • Horse Breeding, • Etc.

How to use this guide ...

Throughout the guide information is given specifically aimed at you, the facilitator, to **assist** in the actual presentation of the learning material and/or facilitation of the learning process. Although this guide contains all the information required for attaining competency in this unit standard, references to additional resources, both printed and electronic, are provided for additional reference by the facilitator and further study by the learner.

Please note that the purpose of this information is merely to **guide** you, the facilitator, and is provided as a suggestion of possibilities. It remains the responsibility of every facilitator to re-assess the learner/s in each learning situation throughout the learning process in order to stay in touch with their specific learning needs. This should be the determining factor in the choice of the learning approach to follow.

Use the different boxes listed below for identification purposes:



Instructions regarding **activities**, whether group or individual activities will be described in this box.



Facilitators' Tip ...

My Notes ...

You can use this box for your own notes/comments.

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What & how will you be Facilitating?

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The Learning Experience...

On completion of this module, the learners will be able to:

- ◆ Monitor and apply basic control of insects, plant diseases and common weeds, in a specific agricultural enterprise. In addition they will be able to report their findings to management or advisors.
- ◆ Learners will gain an understanding of sustainable agricultural practices as applied in the animal-, plant and mixed farming sub fields. This unit standard focuses on the application of pest control practices in primary agriculture.

Learners will specifically be able to:

- ◆ Monitor the common insects associated with the specific agricultural enterprise.
- ◆ Demonstrate a basic knowledge of trapping, monitoring and recording the incidence of pests, diseases and weeds.
- ◆ Collect insects not familiar and that had been identified.
- ◆ Monitor the symptoms of disease associated with the agricultural enterprise.
- ◆ Monitor and report the incidence of weeds in the agricultural enterprise.

Learners will also gain basic knowledge of:

- ◆ Basic safety requirements related to the propagation environment, tools and procedures.
- ◆ Basic hygiene requirements for the propagation environments.
- ◆ Growing media - wet and dry.
- ◆ Weeds, pest and diseases.
- ◆ The safe handling of hormone and Chemicals preparations (rooting powders and plant protection substances).

Learning Assumed to be in Place:

- ◆ It is assumed that a learner attempting this unit standard will show competence against the following unit standards or equivalent:
- ◆ NQF 3: Demonstrate a basic understanding of the physiological functioning of the anatomical structures of the plant.
- ◆ NQF 2: Control pests and diseases ad weeds on crops effectively and responsibly.



Remember to do a diagnostic assessment of the learner's prior learning and ensure that they are starting at the correct level.

Learning Program Time Frames

	Total time allocated (hours)	Theoretical learning time allocated (hours)	Practical learning time allocated (hours)	Activities to be completed
Complete Program (including summative assessment)	20 hours	3.5 hours	16.5 hours	5
Learner Orientation and "Ice Breaker"	0.5 hour	0.5 hour		NA
Purpose, Introduction and Learner Directions	0.5 hour	0.5 hour		NA
Session 1	4.5 hours	0.5 hour	4 hours	1
Session 2	4.5 hours	0.5 hour	4 hours	2 & 3
Session 3	4.5 hours	0.5 hour	4 hours	4
Session 4	4.5 hours	0.5 hour	4 hours	5
Preparation for Assessment & revision	1 hours	0.5 hour	0.5 hour	NA

My Notes ...

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Tips for level of learning



Remember the following before you get started:

Typically, a learning programme leading to the award of a qualification or unit standards at level 3 should develop learners who demonstrate an ability to:-

- Operate within clearly defined contexts.
- Work and learn within a managed environment.
- Actively contribute to team effectiveness.
- Take position on available information, discuss the issues and reach a resolution; produce a coherent presentation and report, providing explanations for positions taken.
- Summarise and interpret information relevant to the context from a range of sources.
- Use their knowledge to select appropriate procedures to solve problems within given parameters.
- Apply skills in measuring the environment using key instruments and equipment operational literacy and numeracy skills; use basic procedures and operations to complete complex tasks.
- Understand the organisational and operating environment as a system.
- Understand one or more fields or discipline's key concepts and knowledge, in addition to the fundamental areas of study.

My Notes ...

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Facilitator's Checklist & Training Aids

Learner support strategies:
<p>Learners are supplied with all resources and aids as required by the programme – including:</p> <ul style="list-style-type: none"> ▪ Objects & devices such as equipment, protective clothing, safety gear, etc. ▪ Learner Guides and Learner Workbook ▪ Visual aids, etc.

Use this checklist below during your preparation to ensure that you have all the equipment, documents and training aids for a successful session.

Preparation:	Yes	No
Qualification Knowledge – I have familiarised myself with the content of the applicable qualification		
Unit Standard Knowledge – I have familiarised myself with the content of all aspects of the applicable unit standard		
Content Knowledge – I have sufficient knowledge of the content to enable me to facilitate with ease		
Application knowledge – I understand the programme matrix & have prepared for programme delivery accordingly		
Contextualisation – I have included information which is specific to the commodity and practices related to the commodity		
Ability to respond to learners background & experience – I have studied the learner demographics, age group, experience & circumstances & prepared for programme delivery accordingly		
Enthusiasm & Commitment – I am passionate about my subject & have prepared my programme delivery to create a motivating environment with real commitment to success		
Enterprise knowledge – I know & understand the values, ethics, vision & mission of the workplace & have prepared my programme delivery, reporting & administrative tasks accordingly.		
Equipment check:		
Learner guides x 1 per learner		
Assessment guides x 1 per learner		
Writing materials & stationary (facilitator & learner)		
White board & pens		
Flip chart paper		
Proxima projector & screen		
Laptop & programme disk		
Sample Hand-outs and examples of laws and other relevant documents		

Safety gear as prescribed by unit standard and applicable legislation		
Documentation checklist:		
Attendance Register		
Course Evaluation		
Learner Course Evaluation		
Portfolios of evidence		

Contextualisation of Content!

Go through this module and indicate what specific **information** / **activities** / **examples** should be included in this module?

Contextualisation	
<ul style="list-style-type: none"> ▪ Commodity specific? 	
<ul style="list-style-type: none"> ▪ Operating procedures of the farm? 	
<ul style="list-style-type: none"> ▪ Agricultural practices? 	
<ul style="list-style-type: none"> ▪ Agricultural markets? 	

Session

1 Monitor for common crop pests

**Learner Guide:
Page 8**

After completing this session, the learner should be able to:
SO 1: Monitor the common pests prevalent in the specific agricultural enterprise.

Concept (SO 1)	Time frame	Activities related to the concept
The pest monitoring process for the specific agricultural enterprise is explained.	4.5 hours	Activity 1
The significance for the monitoring of pests is explained.		
The differences between pests and predators are explained.		
The relationship between pests and predators with relation to control measures is explained.		
The ability to observe, categorize and report any new plant damage is demonstrated.		
The importance of the recording of data is explained.		



Please allow learners to complete Activity 1 in their Learner Guides

Type of activity	Resources
Group Work	Learner Guide, Stationary, relevant on farm procedures
Instructions to give to the learners	
<p>At the learners place of work, they should investigate and compile a report on:</p> <ol style="list-style-type: none"> 1. What are the most important pests of the crops that are grown at your place of work? 2. Describe the damage caused by these pests. 3. What integrated pest management techniques are used on the farm to combat these pests? 4. If IPM is practiced, how are pest predators encouraged on farm (if any). 5. How do you ensure that these populations are kept intact at your place of work? 	

Session

2 Monitoring crop fields for pests, diseases and weeds

Learner Guide:
Page 16

After completing this session, the learner should be able to:
SO 2: Demonstrate a basic knowledge of trapping, monitoring and recording the incidence of pests, diseases and weeds.
SO 3: Collect insects not familiar and that had been identified.

Concept (SO 2)	Time frame	Activities related to the concept
The different types of traps that can be used in pest monitoring is explained.	4.5 hours	Activity 2 & 3
The significance of these traps and how they are assessed is explained.		
The techniques of monitoring pests when traps are not used are explained.		
The monitoring of diseases and weeds is explained.		
Different methods of recording the data are explained.		
The use of data to control pests is explained.		
Concept (SO 3)	Time frame	Activities related to the concept
The need to trap, collect and send unknown pests for identification especially when occurring in large numbers is explained.	4.5 hours	Activity 2 & 3
The way in which these pests will be collected and where they could be sent for identification is described.		
The reasons for identifying pests are explained.		



Please allow learners to complete Activity 2&3 in their Learner Guides

Type of activity	Resources
2. Individual Activity	Learner guide, Stationery, relevant on farm procedures.
Instructions to give to the learners	
At the learners place of work, they should investigate and compile a report on: 1. What traps are used for monitoring pet populations at your place of work? 2. What data is collected? 3. How is the data interpreted? 4. Describe the use of monitoring techniques other than taps used on farm 5. Collect and describe the procedures used for pests, weeds and diseases monitoring at your place of work 6. What data are recorded, where and for how long are these records stored. 7. Describe how the principals of economic thresholds for pest, weed and disease control are applied at your place of work.	
Type of activity	Resources
3. Group Work	Learner guide, Stationery, relevant on farm procedures.
Instructions to give to the learners	
At the learners place of work, they should investigate and compile a report on: 1. Describe and demonstrate the insect collection techniques used at your place of work 2. How are unknown pest identified? 3. Why are these identified? 4. Where are the samples sent for identification?	

My Notes ...

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Session **3** Crop diseases

**Learner
Guide:
Page 23**

After completing this session, the learner should be able to:
SO 4: Monitor the symptoms of disease associated with the agricultural enterprise.

Concept (SO 4)	Time frame	Activities related to the concept
The basic symptoms are which would be looked for when one suspects a disease are described.	4.5 hours	Activity 4
Damage, disease symptoms and weeds are interpreted and explained.		
The monitoring of disease symptoms is explained.		
The possible measures that can be implemented to control diseases before it reaches problem status is described.		
The strategy to treat an unknown disease is described.		
The identification of diseases from plant material is described.		

My Notes ...

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Please allow learners to complete Activity 4 in their Learner Guides

Type of activity	Resources
Individual Activity	Learner guide, Stationery, relevant on farm procedures.
Instructions to give to the learners	
<p>At the learners place of work, they should investigate and compile a report on:</p> <ol style="list-style-type: none"> 1. What are the major diseases found on the crops that are grown at your place of work? 2. Describe the major symptoms that the disease causes? 3. Describe the monitoring procedures that are followed for diseases at your place of work. 4. At what stage of infection is the disease treated? 5. How is the disease treated – Describe the strategy followed – if this includes chemical treatments, name the compound used, the dosage rates as well as the number of applications, type of application equipment and volume rates used. 6. If an unknown disease is found on the crop, how would you handle this at your place of work? 	

My Notes ...

4 Weeds in agricultural crops

Session

**Learner Guide:
Page 30**

After completing this session, the learner should be able to:
SO 5: Monitor and report the incidence of weeds in the agricultural enterprise.

Concept (SO 5)	Time frame	Activities related to the concept
The characteristics of the most common weeds associated with the agricultural enterprise are explained.	4.5 hours	Activity 5
Monitoring and control of weeds is described.		
The collection of unknown seed is explained.		
The strategy to identify unknown seed is described.		



Please allow learners to complete Activity 5 in their Learner Guides

Type of activity	Resources
Individual Activity	Learner guide, Stationery, relevant on farm procedures.
Instructions to give to the learners	
<p>At the learners place of work, they should investigate and compile a report on:</p> <ol style="list-style-type: none"> 1. What are the major weed species found in the area where your place of work is located. 2. How is weeds monitoring applied at your place of work. 3. Describe and demonstrate the weed monitoring procedures used on farm 4. Describe how you would collect seeds and plant material from unknown weeds observed at your place of work and how you would go about having these identified. Ensure that the on farm procedures are followed. 	

What will I do differently next time?

Take some time to **reflect** on your own activities as facilitator of this Unit Standard. Then write down five of the most important lessons you have learnt and include a motivation:

What will I do differently next time?	Motivate how or why (Give examples, reasons, etc.)
1.	
2.	
3.	
4.	
5.	

As facilitator, you have hands on experience in the application of the unit standard. And you might experience difficulties with the unit standard that the developers did not anticipate. Also, the unit standard will be revised at the end of the registration period. Your comments below can be an important contribution in the revision process and should be brought to the attention of either the AgriSETA ETQA manager or the SGB chairperson.

Please take some time to reflect on your experience and list a few of the difficulties you had to address.

Difficulties I had with the Unit Standard	Recommended Changes to Address the Difficulty
6.	
7.	
8.	
9.	
10.	