



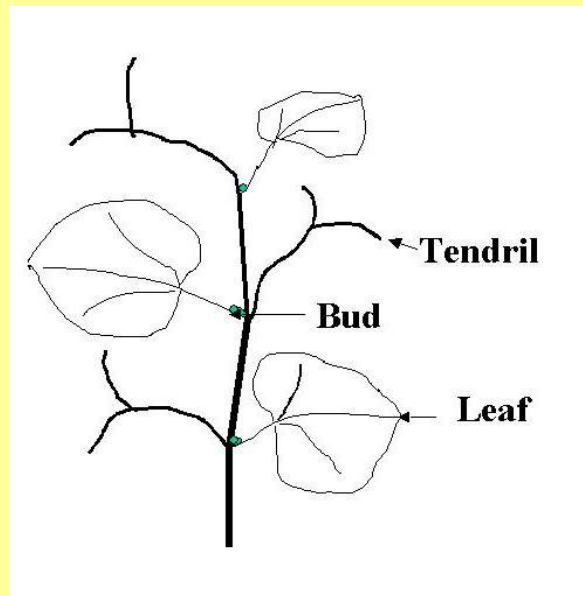
NQF Level: 4

US No: 116305

# Facilitator Guide

## Primary Agriculture

# Plant manipulation Methods



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:

<b>Title:</b> Manage plant manipulation methods of an agricultural crop
<b>US No:</b> 116305 <b>NQF Level:</b> 4 <b>Credits:</b> 3

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	48979	4	120	<input type="checkbox"/>
National Certificate in Plant Production	49009	4	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"> <li>• Organic production,</li> <li>• Hydroponic production,</li> <li>• Perma-culture production,</li> <li>• Agronomy,</li> <li>• Horticulture,</li> <li>• Natural resources harvesting.</li> </ul>	<ul style="list-style-type: none"> <li>• Small stock production,</li> <li>• Large stock production,</li> <li>• Dairy production,</li> <li>• Pig production,</li> <li>• Poultry production,</li> <li>• Game,</li> <li>• Aqua / mari culture,</li> <li>• Commercial insects</li> <li>• Animal fibres harvesting,</li> <li>• Bee keeping,</li> </ul>	<ul style="list-style-type: none"> <li>• Natural resources harvesting,</li> <li>• Organic production,</li> <li>• Perma-culture production,</li> <li>• Eco/Agri Tourism,</li> <li>• Agro Chemicals,</li> <li>• Horse Breeding,</li> <li>• Etc.</li> </ul>



# What & How will you be Facilitating?

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## The Learning Experience...

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

- ◆ A learner achieving this unit standard will be able to implement a plant manipulation management plan using a broad range of techniques. Learners achieving this unit standard will be able to apply their skills and capacity in a variety of production environments and be able to contribute towards to overall productivity of a production enterprise by maximizing growth and yield and maintaining high standards of practice.
- ◆ Learners will gain specific knowledge and skills in plant manipulation processes and will be able to operate in a plant production environment implementing sustainable and economically viable production principles. They will be capacitated to gain access to the mainstream agricultural sector, in plant production, impacting directly on the sustainability of the sub-sector. The improvement in production technology will also have a direct impact on the improvement of agricultural productivity of the sector.
- ◆ Determine the correct growth stage for manipulating a specific crop.
- ◆ Caring and maintaining of equipment
- ◆ Create and implement a manipulation schedule.
- ◆ Erect a trellising system for a specific crop.
- ◆ Manipulating buds (growing points).
- ◆ Shaping the plant.
- ◆ Manage flower and fruit manipulation.
- ◆ Establish a spraying program for chemical manipulation.
- ◆ Establish a program for physical manipulation.
- ◆ Maintain appropriate hygiene and health standards.

### Learners will also gain basic knowledge of:

- ◆ Tools for manipulation of plants.
- ◆ Trellising methods.
- ◆ Flower manipulation and fruit manipulation methods.
- ◆ Pruning methods.
- ◆ The principles of manipulation of a plant.
- ◆ Names and functions of tools and materials.
- ◆ Safe handling procedures of tools and material.
- ◆ Maintaining hygienic procedures of tools and material as to prevent spreading of diseases.
- ◆ Plant physiology and anatomy.
- ◆ Interpret a plant manipulation management plan.
- ◆ Create and implement a plant manipulation schedule.
- ◆ Supervise the implementation of a plant manipulation schedule.
- ◆ Maintaining appropriate hygiene and health standards.



## Learning Program Time Frames

	Total time allocated (hours)	Theoretical learning time allocated (hours)	Practical learning time allocated (hours)	Activities to be completed
<b>Complete Program (including summative assessment)</b>	30 hour	13.5 hour	16.5 hour	
<b>Learner Orientation and "Ice Breaker"</b>	1 hour	0.5 hour	0.5 hour	
<b>Purpose, Introduction and Learner Directions</b>	1 hour	0.5 hour	0.5 hour	
<b>Session 1</b>	7 hour	3 hour	4 hour	1
<b>Session 2</b>	6 hour	3 hour	3 hour	2
<b>Session 3</b>	7 hour	3 hour	4 hour	3
<b>Session 4</b>	7 hour	3 hour	4 hour	4
<b>Preparation for Assessment &amp; revision</b>	1 hour	0.5 hour	0.5 hour	



## 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 4 should develop learners who demonstrate an ability to:-***

- Take responsibility for self-learning within a supervised environment.
- Take decisions about and responsibility for actions.
- Evaluate their own performance against given criteria.
- Take the initiative to address any shortcomings they find.
- Communicate and present information reliably and accurately in writing and verbally.
- Gather relevant information, analysis and evaluation skills.
- Use their knowledge to solve common problems within a familiar context; adjust an application of a common solution within relevant parameters to meet the needs of small changes in the problem or operating context; motivate the change using relevant evidence.
- Apply essential methods, procedures and techniques of the field or discipline; apply and carry out actions by interpreting information from text and operational symbols or representations.
- Understand the organisation or operating environment as a system within a wider context.
- Demonstrate a fundamental knowledge base of the most important areas of one or more fields or disciplines, in addition to the fundamental areas of study an informed understanding of the key terms, rules, concepts, established principles and theories in one or more fields or disciplines.

# Facilitator's Checklist & Training Aids

**Learner support strategies:**

**Learners are supplied with all resources and aids as required by the programme – including:**

- Objects & devices such as equipment, protective clothing, and 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
<b>Qualification Knowledge</b> – I have familiarised myself with the content of the applicable qualification.		
<b>Unit Standard Knowledge</b> – I have familiarised myself with the content of all aspects of the applicable unit standard.		
<b>Content Knowledge</b> – I have sufficient knowledge of the content to enable me to facilitate with ease.		
<b>Application knowledge</b> – I understand the programme matrix & have prepared for programme delivery accordingly.		
<b>Contextualisation</b> – I have included information which is specific to the commodity and practices related to the commodity.		
<b>Ability to respond to learner's background &amp; experience</b> – I have studied the learner demographics, age group, experience & circumstances & prepared for programme delivery accordingly.		
<b>Enthusiasm &amp; Commitment</b> – I am passionate about my subject & have prepared my programme delivery to create a motivating environment with real commitment to success.		
<b>Enterprise knowledge</b> – 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		
<b>Documentation checklist:</b>		
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"> <li>Commodity specific?</li> </ul>	
<ul style="list-style-type: none"> <li>Operating procedures of the farm?</li> </ul>	
<ul style="list-style-type: none"> <li>Agricultural practices?</li> </ul>	
<ul style="list-style-type: none"> <li>Agricultural markets?</li> </ul>	

Session

# 1 Plant manipulation management

Learner Guide:  
Page 8

After completing this session, the learner should be able to:

**SO 1: Interpret a plant manipulation management plan**

Concept (SO 1)	Time frame	Activities related to the concept
Problems in the use of tools, material appropriate to pre-determined manipulation method on appropriate crop independently are managed and solved.	3 Hour Theory 4 Hour Practical	Activity 1
Plant growth is at the correct growth stage according to pre-determined manipulation method under a variety of familiar and unfamiliar contexts.		
The caring and maintaining of equipment is managed.		



Please allow learners to complete Activity 1 in their Learner Guides

Type of activity	Resources
Write notes	Learner Guide; Stationary; A Crop
Instructions to give to the learners	
Select a crop in your area, find a manipulation plan for the crop, interpret the plan and write notes on the following: 1. How will you: (a) Manage the use of appropriate tools and equipment? (b) Solve related problems? (c) Manage the caring for the equipment? 2. The correct stages when different manipulation methods should be applied?	

My Notes ...

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Session

# 2 A plant manipulation schedule

Learner Guide:  
Page 13

After completing this session, the learner should be able to:  
**SO 2: Create and implement a plant manipulation schedule**

Concept (SO 2)	Time frame	Activities related to the concept
The manipulation and trellising system is erected appropriate to the crop according to a considerable choice of procedures.	3 Hour Theory 3 Hour Practical	Activity 2
Problems related to the manipulation and framework development of the plant are solved according to a considerable range of procedures.		
The manipulation of growing points and bearing units appropriate to the crop and the manipulation method under familiar and unfamiliar conditions is managed.		
The shaping of the plant under a wide range of conditions, appropriate to the crop and trellising system is managed.		



Please allow learners to complete Activity 2 in their Learner Guides

Type of activity	Resources
Write notes	Learner Guide; Stationary; A crop
Instructions to give to the learners	
<p>In your place of work, select a crop on which you can create and implement a plant manipulation schedule and write notes on the following:</p> <ol style="list-style-type: none"> <li>1. How and why are you going to erect the chosen trellising system for the crop?</li> <li>2. How and why are you going to manipulate the vegetative and reproductive buds of the plant?</li> <li>3. The different methods you are going to apply to manipulate the plants.</li> <li>4. Why it would be necessary to shape the plants and how they are going to be shaped.</li> </ol>	

Session

# 3 Supervision

Learner  
Guide:  
Page 22

After completing this session, the learner should be able to:

**SO 3: Supervise the implementation of a plant manipulation schedule.**

Concept (SO 1)	Time frame	Activities related to the concept
The fruit and flower manipulation is managed.	3 Hour Theory 4 Hour Practical	Activity 3
A spraying program for chemically flower/fruit manipulation is established.		
A program for the physical manipulation on the fruit and flowers is established.		



Please allow learners to complete Activity 3 in their Learner Guides

Type of activity	Resources
Write notes	Learner Guide; Stationary; A crop
Instructions to give to the learners	
Select a crop in your area that needs manipulation and write notes under the following headings; how are you going to supervise the implementation of a manipulation schedule: <ol style="list-style-type: none"> <li>1. Managing flower and fruit manipulation.</li> <li>2. Establishing a spraying program for chemical flower and fruit manipulation.</li> <li>3. Establishing a program for physical flower and fruit manipulation.</li> </ol>	

**My Notes ...**

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# 4 Hygiene and health

**Session**

**Learner  
Guide:  
Page 27**

*After completing this session, the learner should be able to:*  
**SO 4: Maintain appropriate hygiene and health standards.**

Concept (SO 4)	Time frame	Activities related to the concept
The pruning of plants and the removal of unwanted growth under a variety of familiar and unfamiliar contexts are ensured.	3 Hour Theory 4 Hour Practical	Activity 4
The vegetative manipulation and pruning actions are ensured.		
The vegetative manipulation program and actions are established and ensured.		



**Please allow learners to complete Activity 4 in their Learner Guides**

Type of activity	Resources
Group Discussion	Learner Guide; Stationary
Instructions to give to the learners	
Select at least three different crop species in your area and have group discussions on the following items before submitting a detailed, written report covering the discussed items: <ol style="list-style-type: none"> <li>1. The aims and needs for summer and winter pruning.</li> <li>2. The type of plant material to be removed during summer and winter pruning and other physical manipulation methods.</li> <li>3. The possible health and hygiene implications as a result of activities discussed in 2 above.</li> </ol>	

**My Notes ...**

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## 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.	