



NQF Level: 4

US No: 116282

Facilitator Guide

Primary Agriculture

Intermediate Animal Nutrition



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: Explain intermediate animal nutrition.
US No: 116282 NQF Level: 4 Credits: 4

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	ρ
National Certificate in Plant Production	49009	4	120	ρ

Please mark the learning program the learners are enrolled in:

Are you enrolled in a:	Y	N
Learnership?	ρ	ρ
Skills Program?	ρ	ρ
Short Course?	ρ	ρ

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.

What & How will you be Facilitating?

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The Learning Experience...

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

- ◆ Understand and apply the scientific and technical principles of animal nutrition, feed, technology and feeding management.
- ◆ Gain specific knowledge and skills in animal feeding and nutrition and will be able to operate in an animal production environment implementing sustainable and economically viable production principles.

Learners will specifically be able to:

- ◆ Describe the composition and functions of specific nutrient components and feed ingredients.
- ◆ Interpret the nutrient requirements of different animal species and categories.
- ◆ Perform the calibration and adjustments of feed manufacturing and processing equipment.
- ◆ Explain the principles of feed preservation.
- ◆ Apply quality control measures that affect feeds.

Learners will also gain basic knowledge of:

- ◆ Intermediate comprehension and understanding the roles of specific nutrients, ingredients and feed components.
- ◆ Intermediate comprehension and understanding of nutrient requirement of different animal species and categories.
- ◆ The understanding and interpretation of observed and measured quality characteristics and standards.
- ◆ Interpretation and application of on farm feed performance results.
- ◆ Develop communication skills - presentation of information.
- ◆ Develop interpersonal skills and supervision responsibility.
- ◆ Understanding of concepts and interpretation of carrying capacity, feed supply, fodder flow planning and overall feed flow planning and external influences on feed supply.
- ◆ Understanding of feed processing.
- ◆ Understanding of appropriate feed regulations (Act 36 of 1947).

Learning Assumed to be in Place:

- ◆ It is assumed that a learner attempting this unit standard will demonstrate competence against the following unit standards or equivalent:
- ◆ NQF 3: Explain elementary Animal Nutrition.
- ◆ NQF 4: Explain Functional animal Anatomy and Physiology.
- ◆ NQF 3: Maintain water quality parameters.
- ◆ NQF 4: Plan and maintain environmentally sound agricultural processes.



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)	40 hours	19 hours	21 hours	9 Activities
Learner Orientation and "Ice Breaker"	30 minutes	30 minutes	-	N/A
Purpose, Introduction and Learner Directions	30 minutes	30 minutes	-	N/A
Session 1	6 hours	3 hours	3 hours	1 & 2
Session 2	3 hours	2 hours	1 hour	3
Session 3	6 hours	2 hours	4 hours	4
Session 4	5 hours	1 hour	4 hours	5
Session 5	3 hours	2 hours	1 hour	6
Session 6	5 hours	1 hour	4 hours	7
Session 7	4 hours	3 hours	1 hour	8
Session 8	4 hours	1 hour	3 hours	9
Preparation for Assessment & revision	3 hours	3 hours	-	N/A

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 their own 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.

My Notes ...

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 Nutrient components and feed ingredients

**Learner
Guide:
Page 7**

After completing this session, the learner should be able to:
SO 1: Describe the composition and functions of specific nutrient components and feed ingredients.

Concept (SO 1)	Time frame	Activities related to the concept
The key chemical features of nutrients are compared.	6 hours	Activity 1 & 2
The functions of nutrients are explained.		
The compositions and functions of various feed ingredient are compared.		
Nutrient toxicity are explained and identified.		



Please allow learners to complete Activity 1 & 2 in their Learner Guides

Type of activity	Resources
1. Individual written assignment.	Learner Guide; oral instruction, Local feed store or farmer's co-operative.
Instructions to give to the learners	
As per instructions in Learner Guide.	
Type of activity	Resources
2. Group assignment and presentation.	Learner Guide; oral instruction; Library resources and internet.
Instructions to give to the learners	
As per instructions in Learner Guide.	

Session

2 Nutrient requirements of different animal species

Learner Guide:
Page 18

After completing this session, the learner should be able to:
SO 2: Interpret the nutrient requirements of different animal species and categories.

Concept (SO 2)	Time frame	Activities related to the concept
Specific requirements for nutrients of different species and/or production categories, maintenance or stimulation are distinguished between.	3 hours	Activity 3
Nutrient imbalance signs are recognised.		
Animal feed tables are interpreted.		



Please allow learners to complete Activity 3 in their Learner Guides

Type of activity	Resources
3. Individual quiz.	Learner Guide; oral instruction.
Instructions to give to the learners	
As per instructions in Learner Guide.	

Session

3 Feed manufacturing and processing

**Learner
Guide:
Page 35**

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

SO 3: Perform the calibration and adjustment of feed manufacturing and processing equipment.

Concept (SO 3)	Time frame	Activities related to the concept
Appropriate adjustments on feed equipment for mixing/manufacturing of relevant feeds/mixes are performed.	6 hours	Activity 4
Complex adjustments of feed equipment for maintenance of feed quality are calibrated.		
Feed manufacturing and processing plants, equipment and machinery are operated.		
Feed processing or manufacturing systems are recommended.		



Please allow learners to complete Activity 4 in their Learner Guides

Type of activity	Resources
4. Individual report following field trip.	Learner Guide; oral instruction, Appointment with feed manufacturer.
Instructions to give to the learners	
As per instructions in Learner Guide.	

4 The principles of feed preservation

Session

Learner Guide:
Page 44

After completing this session, the learner should be able to:
SO 4: Explain the principles of feed preservation.

Concept (SO 4)	Time frame	Activities related to the concept
All the various influences on effective feed preservation or spoilage are identified and explained.	5 hours	Activity 5
Factors affecting feed quality are identified.		
Various feed preserving techniques are applied and implemented.		



Please allow learners to complete Activity 5 in their Learner Guides

Type of activity	Resources
5. Individually compiled feed preservation information leaflet.	Learner Guide; oral instruction.
Instructions to give to the learners	
As per instructions in Learner Guide.	

Session

5 Quality control measures that effect feeds

**Learner
Guide:
Page 48**

After completing this session, the learner should be able to:
SO 5: Apply quality control measures that affect feeds.

Concept (SO 5)	Time frame	Activities related to the concept
Sensory and chemical quality characteristics of preserved feed are explained.	3 hours	Activity 6
The ability to create on farm feed quality standards for preserved feed are demonstrated.		
Animal feeds are sampled and evaluated.		
Spoilage in animal feeds is identified.		
Feed quality maintenance systems are proposed.		



Please allow learners to complete Activity 6 in their Learner Guides

Type of activity	Resources
6. Completed individual quiz.	Learner Guide; oral instruction.
Instructions to give to the learners	
As per instructions in Learner Guide.	

6 Feed standards

Session

Learner Guide:
Page 55

After completing this session, the learner should be able to:
SO 6: Apply the relevant standards of different purchased feed ingredients and complete feeds.

Concept (SO 6)	Time frame	Activities related to the concept
The ability to compare the quality of feed ingredients and complete feeds with standards described by the Farm Feed Act (Act 36 of 1947).	5 hours	Activity 7
The ability to develop on farm nutrient variability standards.		



Please allow learners to complete Activity 7 in their Learner Guides

Type of activity	Resources
7. Individual assignment	Learner Guide; oral instruction, Act no 36. of 1947 – the Fertilizers, Farm feeds, Agricultural Remedies and Stock Remedies Act, 1947.
Instructions to give to the learners	
As per instructions in Learner Guide.	

Session

7 Feed evaluation and feeding management

**Learner
Guide:
Page 58**

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

SO 7: Interpret the effects of feed evaluation results towards feeding management decisions and future food selection.

Concept (SO 7)	Time frame	Activities related to the concept
The ability to understand the concepts of the various applicable data and information, as well as the factors that may influence it.	4 hours	Activity 8
The ability to interpret feed evaluation results in terms of future feed selection.		
The ability to develop on farm feed evaluation procedures and standards.		



Please allow learners to complete Activity 8 in their Learner Guides

Type of activity	Resources
8. Individual calculations.	Learner Guide; oral instruction.
Instructions to give to the learners	
As per instructions in Learner Guide.	

8 Feed flow planning

Session

**Learner
Guide:
Page 62**

After completing this session, the learner should be able to:
SO 8: Apply feed flow planning principles.

Concept (SO 8)	Time frame	Activities related to the concept
The ability to distinguish seasonal productivity of different feed sources.	4 hours	Activity 9
Feed utilisation and conversion of different feed types are compared and evaluated.		
The ability to interpret feed flow programmes to meet animal stimulation, production and maintenance requirements.		



Please allow learners to complete Activity 9 in their Learner Guides

Type of activity	Resources
9. Individual written assignment.	Learner Guide; oral instruction.
Instructions to give to the learners	
As per instructions in Learner Guide.	

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.	