



Province of the
EASTERN CAPE
EDUCATION



**NATIONAL
SENIOR CERTIFICATE**

KEREITI YA 12

LWETSE 2022

**DISAENSE TSA TEMO (AGRICULTURAL
SCIENCES) P1
TATAISO YA HO TSHWAYA**

MATSHWAO: 150

Tataiso ena yah o tshwaya ena e na le maqephe a 10.

KAROLO YA A**POSTO YA 1**

1.1	1.1.1	B ✓✓		
	1.1.2	D ✓✓		
	1.1.3	C ✓✓		
	1.1.4	A ✓✓		
	1.1.5	B ✓✓		
	1.1.6	B ✓✓		
	1.1.7	A ✓✓		
	1.1.8	D ✓✓		
	1.1.9	B ✓✓		
	1.1.10	A ✓✓	(10 x 2)	(20)
1.2	1.2.1	B feela ✓✓		
	1.2.2	A feela ✓✓		
	1.2.3	Ha eyo ✓✓		
	1.2.4	Bobedi ba A le B ✓✓		
	1.2.5	A feela ✓✓	(5 x 2)	(10)
1.3	1.3.1	Nyoko ✓✓		
	1.3.2	Bancheng/swarmeng ✓✓		
	1.3.3	Enovuleishene ✓✓		
	1.3.4	Sekorothamo/Krimasta masele ✓✓		
	1.3.5	Dropsi ✓✓	(5 x 2)	(10)
1.4	1.4.1	Etha ekstraket ✓		
	1.4.2	Topikhale ✓		
	1.4.3	tjhin-ball makha ✓		
	1.4.4	Phistolelete ✓		
	1.4.5	Embrio flasheng ✓	(5 x 1)	(5)

MATSHWAO A KAROLO YA A: 45

KAROLO YA B**POTSO YA 2: ANIMALE NYUTRISHENE****2.1 Daejestive sistimo ya diphoofolo tsa polasing.****2.1.1 Lebitso la phoofolo ya polasing.**

Fariki ✓

(1)

2.1.2 Lebaka

E na le mpa e le nngwe ✓

(1)

2.1.3 Indikheishene ya phate e leibeluweng A hore e fapane ha jwang le kgoho.

Usofogase ya kgoho e nale ekesetenshene ya mokotla nyana (kilana) ✓ mme ya fariki ha e na kilana. ✓

(2)

2.1.4 Idikheishene ya leta.(a) **Sikirishene ya renini** – B ✓

(1)

(b) **Setoreiji sa fethe-solubole vithamins** – C ✓

(1)

2.1.5 Lebaka la hore hobaneng fariki e sa kgone ho daejeseta ditlhaka.

E na le mpa e le nngwe ✓ e senang di rumene maekhroubs tse daejesetang ditlhaka. ✓

(2)

2.2 Diporose tse nkang karolo ho daejeseshene.**2.2.1 Ho areinjwa hwa diporose**

D ✓

A ✓

E ✓

C ✓

B ✓

(5 x 1)

(5)

2.2.2 Lebitso la seteraaketjha se dumellang abosoposhene ya vili.

Vili ✓

(1)

2.3 Mefuta ya di fidi**2.3.1 Klasifikheishene ya di fidi****FIDI A** – Rafeiji ✓**FIDI B** – khonsentreiti ✓

(2 x 1)

(2)

2.3.2 Identification of the feed

(a) Fidi B/khonsentreiti ✓

(1)

(b) Fidi A/rafeiji ✓

(1)

(c) Fidi B/khonsentereiti ✓

(1)

2.3.3 Khalekhuleishene ya nyutritive reishio ya fidi A

$$NR = 1 : \frac{\% TDN - \% DP}{\% DP} \checkmark$$

$$1 : \frac{56\% - 6\%}{6\%} \checkmark$$

$$1 : 8,33 \checkmark$$

KAPA

$$NR = 1 : \frac{\% DNNS}{\% DP} \checkmark$$

$$1 : \frac{50\%}{6\%} \checkmark$$

$$1 : 8,33 \checkmark$$

(3)

2.4 Daejesetebilithi ya hei

2.4.1 Khalekhuleishene ya kho-efishiente daejesetebilithi

$$DC = \frac{\text{terae matha (kg)} - \text{manyolo a ommeng (kg)}}{\text{terae matha (kg)}} \times \frac{100}{1} \checkmark$$

$$= \frac{12 \text{ kg} - 5 \text{ kg}}{12 \text{ kg}} \times \frac{100}{1} \checkmark$$

$$= 58,3 \checkmark \% \checkmark$$

(4)

2.4.2 Sapolemente e le nngwe e ka nyollang phelethebilithi ya hei

- Sapolementa ka molasese \checkmark
- Sapolementa ka NPN \checkmark

(Leha ele efe 1 x 1) (1)

2.5 Simptomse tsa di difishiensi nyutrientse

2.5.1 Lebitso la difishiensi symptom

PHOOFOLO A – Goetha \checkmark

PHOOFOLO B – kheld-tou pharalesese \checkmark

(2 x 1) (2)

2.5.2 Indikheitha di di nyutrientse tse difishiente

PHOOFOLO A – Aeodini \checkmark

PHOOFOLO B – Vithamin B2/raeboflavin \checkmark

(2 x 1) (2)

2.5.3 Fidi sose e ka lukisang difishiensi ya phoofologo ya A

Letswai la marini \checkmark

(1)

2.6 Foda folou**2.6.1 Lenani la dikgwedi moo felete e ne e sena foda**

Dikgwedi tse tharo ✓

(1)

2.6.2 Khalekhuleishene ya fidi rikhwayamente ya Mei

Lenane la diphoofolo x rikhwayamente/kg/letstatsi x 31

= 100 x 5 kg x 31 ✓

= 155 00 kg ✓

(2)

[35]

POTSO YA 3: ANIMALE PORODAKESHENE, POROTEKESHENE LE KHONTEOROLE

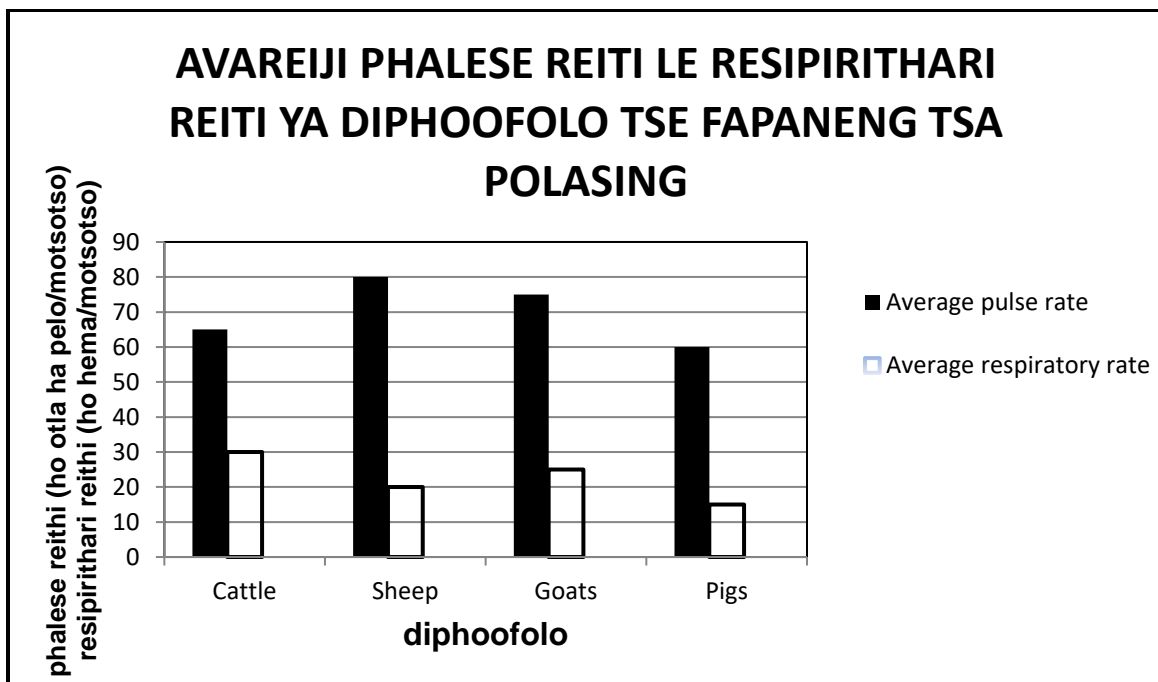
- 3.1 **Ho nyolla porodakeshene ho di porodakeshene uniti**
- 3.1.1 **Identifikheishene ya di porodakeshene uniti**
Porodakeshene unithi B ✓ (1)
- 3.1.2 **Mabaka a MABEDI**
- Briding ho makezimaeza porodakeshene ✓
 - Briding ho nyolla porofiti ✓ (2)
- 3.1.3 **Di seteraketjha tse PEDI tse fumanehang ho porodakeshene uniti ya B**
- Shete ya ho tshwara diphoofolo ✓
 - Shete ya fidi ✓
 - Phene ya ho tshwara diphoofolo ✓
- (Leha ele dife 2 x 1) (2)
- 3.1.4 **Mabaka a MABEDI a ho jastifaya khouste ya porodakeshene unithi ya A**
- Briding e etsahala envaeronemente ya phofoolo e natjhorale ✓
 - Diphoofolo di diphendile difateng bakeng sa tshireletso mabapi le di themperitjhara tse batang hahlo kapo tse tjhesang haholo. ✓
 - Diphoof di fetjwa ka ho fula feela ✓
- (Leha ele dife 2 x 1) (2)
- 3.2 **Nolela mabitso a diphoofolo tse tse bontshang dibehaviya tsena ha di na le seterese**
- (a) **Phawing** – dikgomo ✓ (1)
- (b) **Snaute rabing** – difariki ✓ (1)
- (c) **Faened tjhajeng movumente** – dikgomo ✓ (1)
- 3.3 **Rikhwayamente e le NNGWE e hlokahenang ha o tsamaya le di phoofolo mmileng.**
Foleke e kgubedu ✓ (1)
- 3.4 **Ikhwipmente ya tshwara diphoofolo /apharethase**
- 3.4.1 **Indikheishene ya sepheo**
A – Breeding ✓
C – ho faola/ ho poma mohatla ✓ (2 x 1) (2)
- 3.4.2 **Mabaka a MABEDI a ho sebedisa aphareshase**
- E sebediseha kapele/ ha bobebe ✓
 - E tjhiphu ✓
 - Ha entshe madi ✓
 - Ehlwekile ✓
- (Leha ele dife 2 x 1) (2)
- 3.4.3 **Lebitso la ekhwipimente**
B – derenching gane/ douzing gane ✓ (1)

3.4.4 Di gaedlaene tse pedi tsa ho tswara diphoofole

- Seke wa hlodiya ha o kganna diphoofole ✓
- Phema ho fufisa malatswana moyeng hobane le ka baka diphoofole hore di balehe ✓
- Seke wa kganna diphoofole ho tloha ka morao ✓
- Modisana o tlameha ho bua ha bonolo le diphoofole ✓
- Seke wa sebetsa ka phoofole tse nyane letse kgolo ka nakrusheng e le nngwe ✓
- Sebedisa difasilithi tse nepahetseng ✓
- Sebedisa krush/tyhuthi esephara hape e nang le tshitiso e nyane ✓
- Itshiele sebaka sa hore o balehe haeba ho hlokeha ✓
- Itlhalose diphoofole ka ho di thesa ha o atamela diphoofole (Leha ele dife 2 x 1) (2)

3.5 Avereji reiti le respirithari reitii ya diphoofole tse fapaneng tsa polasing

3.5.1 Bha kerafo



Ruburiki.

- Sehlooho se nepahetseng ✓
- x-axis: di leibeluwe mme tsa khalibareithwa ka ho nepahetseng (diphoofole) ✓
- y-axis: di leibeluwe mme tsa khalibareithwa ka ho nepahetseng (Phalese le respirithari reithi) ✓
- Ba kerafo ✓
- Akhureisi ✓
- Di unitsi tse nepahetseng (ho otlala ha pelo/motsotso le ho hema/motsotso) ✓ (6)

3.5.2 **Tihaloso ya terende.**

Polasi reiti e phakisetsa ✓ ho feta resipirithari reithi ka motsotso
diphoofolong ✓

(2)

3.6 **Laefe saekele ya pharasaete.**

3.6.1 **Klasifikheishene ya di pharasaete**

Parasaete ya ka hare ✓

Lebitso

Theipi wemo ✓

(2)

3.6.2 **Identifikheishene ya di simptomse tse bonahalang**

poroglothitsi ✓

(1)

3.6.3 **Pheko ya infesteishene ya parasaete**

Ho adiminstaresha anthelmentisi/moriana wa dikeleme ✓

(1)

3.7 **Disiki tsa diphoofolo, diphoofolong tsa polasi**

3.7.1 **Lebitso la phathojene**

B – Baketheria ✓

C – Fangi ✓

(2)

3.7.2 **Lebitso la siki**

A – Ret wotha ✓

D – Rift veili fiva ✓

(2)

3.7.3 **Identifikheishene ya leta ya simptomso ya siki e
tshwaetswang ke thiki e bolou/**

A ✓

(1)

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POTSO YA 4: ANIMALE RIPORODAKESHENE

4.1 Sepemathojenesese

- 4.1.1 **Lebitso la oghane**
Thestisi ✓ (1)
- 4.1.2 **Identifikheyishene ya di sele**
A – sepemathosaethe se poraemari ✓
C – Sepemathidi ✓ (2)
- 4.1.3 **Mofuta wa sele divijini**
Meyosese 2 ✓ (1)
- 4.1.4 **Lebitso la phate** (1)
(a) Akerosoumu ✓ (1)
(b) Maethokhondria ✓
- 4.1.5 **Tshwantshwano tse PEDI pakeng tsa sepemathojenesese le uojenesese**
 - Ka bobedi di porojusa di sele tse hapoloede ka meyosese ✓
 - Ka bobedi di porojusa disekele sele/gamethe ✓ (2 x 1) (2)

4.2 Biheivia ya ho tlolela dipohoong

- 4.2.1 **Homouni e reguleithang ho tlolela dipohoong**
Testesterouni ✓ (1)
- 4.2.2 **Disenses tse pedi tse reguleithang response ya ho tlolela diphoofolong**
 - monkgo ✓
 - Saethe ✓
 - Ho thetsa ✓ (Leha ele dife 2 x 1) (2)

4.3 Di steiji tsa ho tswala

- 4.3.1 **Identifikheishene ya steiji**
Ho tswala/phatjhurishene ✓ (1)
- 4.3.2 **Lebitso la seteiji**
A – Eksploujene /ijekeshene ya polasentha ✓
B – seteiji sa poripareithori ✓
C – ijekeshene/ eksploujene ya polasentha ✓ (3)
- 4.3.3 **Homouni e bakang khophas luthiamo hore e rigrese**
Porostaglandini ✓ (1)

4.3.4 Di dsaene tse PEDI tse bontshang hore phoofolo e sentse e tla tswala

- Vulva e ya ruruha mme e be bonojwana ✓
- E ba le mamina nyana a tswang ho vulva ✓
 - Kgomo e rota le ho ithusa kgafetsa
- Kgomo e tlohela ho ja ✓
- E ya ikgetha mehlapeng emeng ✓
- E bontshahatsa di saene tssa seterese le ho se phuthulluhi ✓
- Mmele e ba bohloko, e ruruhe, mme le lebeso le qale hotswa ✓
- Kgomo ha e tsitsi mme e lle ✓
- Ditheperitjhara tsa mmele di ba le hose eme nqa e le nngwe ✓
- Mpa e ya leketla ✓ (Leha ele dife 2 x 1) (2)

4.4 Athifishiale insemineishene (AI)

4.4.1 Re-areinjmente ya di setepo tse pabalang kaorolo ho AI sikhwenshiale

- Kholeksehene ya simene ✓
- Evalueshene ya simene ✓
- Daelushene ya simene ✓
- Setoreiji sa simene ✓ (4)

4.4.2 Indikheishene ya di khomponentse tsadaeluthente

- (a) Mothwebe wa lehe/gliserole ✓
- (b) Anthibaoyothiki ✓
- (c) Buffers ✓ (3)

4.4.3 Themperitjha ya ho boloka simene dilemo-lemo

- 196 °C ✓ (1)

4.5 Diphetoho tsa dihomouni ha phoofolo e palesitse

4.5.1 Identifikhesihene ya di homouni

- A – Follikle stimuleithing homouni /FSH ✓
 C – Ustrojene ✓
 D – Porojesterouni ✓ (3)

4.5.2 Di imphothense tse PEDI tsa FSH haho etshala ustrase saekele

- E fomuleitha sikhrishene ya di grafien folikles ✓
- E risponsebole mabapi le porodakeshene ya ustrojene ho di grafien folikles ✓ (2)

4.5.3 Lebitso la porosese

- Ovuleishene ✓ (1)

4.5.4 Karolo ya luthenaesing homouni ho ustrase saekele

- E baka hore di grafien follicle hore di rapotjhareshe ✓
 Dintshe ouvamo ✓ (2)

4.5.5 Seteiji sa ustrase moo ustrojene e le leveleng e hodimo

- Ustrase steiji. ✓ (1)

[35]

MATSHWAO KAOFELA A KAROLO YA B: 105
 MATSHWAO KAOFELA: 150