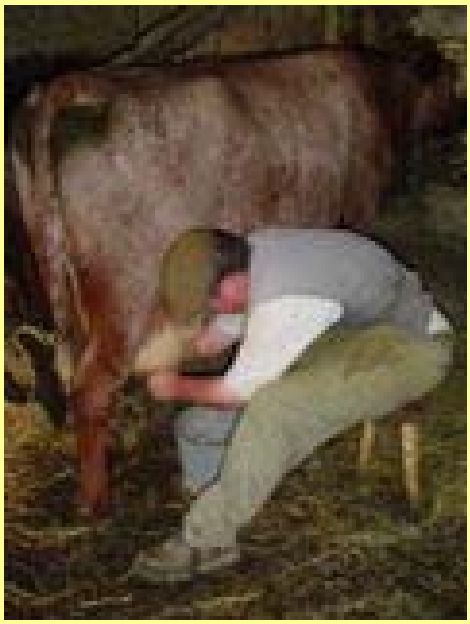
NQF Level: 1 **US No: 116198**

Assessment Guide

Primary Agriculture

Harvest Animal Products



Assessor: . . . . . .

Workplace / Company: . . . . . .

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Department:
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AgriSETA

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.

Please Note:

This Unit Standard **116198** Assessment Guide must be read in conjunction with the generic Assessor Guide as prescribed and published by the AgriSETA.

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. The assessor must familiarise him/herself with this document before proceeding.

This guide provides step-by-step instructions for the assessment process of:

Title:	Harvest Animal Products				
US No:	**116198**	**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	❒

Please mark the learning program you are enrolled in:

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

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.

Activity Answers

1

SO 1

Instructions to learner:

Group discussion and self test.

Learner Workbook: Page 3 Facilitator Guide: Page 11

1 (a) Name at least 5 products of animal origin.

Model Answer(s):
The learner may capture answers such as:

- *Meat*
- *Wool*
- *Mohair*
- *Eggs*
- *Feathers*
- *Etc.*

1 (b) List the different ways that animal products can be harvested.

Model Answer(s):
The learner may capture answers such as:

- *Milking*
- *Shearing*
- *Plucking*
- *Slaughter.*

1 (c) Describe how the harvested products are stored.

Model Answer(s):
The learner may capture answers such as:

- *Wool and Mohair are stored in bales.*
- *Meat and milk must be refrigerated.*

1 (c) Self test

Can the learner complete the self test correctly?

Model answer(s):

1	Cows produce milk after	C
2	The length of the wool fibre is important for	A
3	The diameter of a wool fibre is important for	F
4	Daylight length plays a important role in	B
5	Animal horns and hooves are used to manufacture	G
6	Animal skins are used to manufacture	D
7	Animal bones can be ground and used as	E
8	Ostriches produce	I
9	Most meat are classified to inform the customer of its	J
10	Byproducts of milk	H

My Notes ...

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Activity Answers

2

SO 2

Instructions to learner:

Group homework, written report and self test.

Learner Workbook: Page 5 Facilitator Guide: Page 12

2 (a) Describe the quality characteristics and classification systems used for products at harvesting

Model Answer(s):
The learner may capture answers such as:
The quality characteristics and classification system used for wool or mohair at harvesting:

- *Diameter of fibres*
- *Lengths of fibres*
- *Freedom from foreign materials such as burrs or seeds*

The quality characteristics and classification system used for meat at harvesting:

- *Fat content of the meat*
- *Tenderness of the meat*
- *Age of the animal*
- *Body conformation or conditions score of the animal.*

The quality characteristics and classification system used for feathers at harvesting:

- *Colour of feathers*
- *Size of feathers*
- *Freedom from foreign materials.*

2 (b) **Self test**

Can the learner complete the self test correctly?
Model answer(s):

1	Fine, long mohair is	C
2	Ostrich feathers from the wings are	A
3	Young, well-fed calves will have less	B
4	Hair produced by young angora goats will have a	E
5	The very light fine feathers produced by geese and ducks, between their feathers are called	D
6	Wool is shorn most of the time between	J
7	Mohair is shorn most of the time at intervals of	F
8	Young calves are slaughtered depending on their	I
9	The mass of a lambs carcass will be approximately	G
10	Mohair grows approximately at	H

Activity Answers

3

SO 3 & 4

Instructions to learner:

Individual homework assignments and written reports (3a and 3b)

Learner Workbook: Page 7 **Facilitator Guide: Page 13**

3 (a) Demonstrate knowledge of scarce animal products.

Model Answer(s):
The learner may capture answers such as:
The use of horns and hooves to manufacture products such as:

- *Glue*
- *Glutton*
- *Dog chew-toys.*

The use of bees to produce products such as:

- *Royal jelly*
- *Propolis.*

The use of animals to produce products from their manure such as:

- *Guano*
- *Fertilizer*
- *Animal feed.*

3 (b) Demonstrate knowledge of milking equipment used in modern dairies.

Model answer(s):
The learner may capture answers such as:
***Milking machines**:*

The milking machine extracts milk from all teats simultaneously

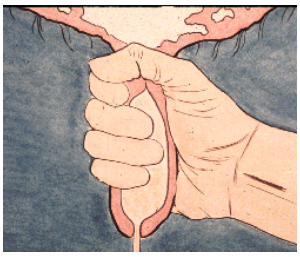
Milking machines are used to extract milk from cows or goats when the herd is larger than about 4 milking animals. Milking machines work by using a pulsating vacuum to cause a rubber sleeve round each teat to simulate the effect of

hand-milking or of a suckling calf. Vacuum in another pipe transports the flowing milk either to a local container (usually sized to the output of one cow) or, in series with a mechanical pump and heat-exchanger, to a central storage vat, usually refrigerated in most countries.The pulsations of the teat sleeve are controlled by mechanical devices in older machines but modern ones have electronic controls to enhance the milking action.

Milking machines keep the milk enclosed and safe from external contamination. However keeping the milk-transport pipes clean internally is a problem that is more or less solved by adequate washing with chemical solvents and water rinses. Most metalwork in contact with milk should be stainless steel (corrosion-resistant steel) and synthetic rubber is specially designed for milking and milk contact.

Most milking machines are powered by electricity but, in case of electrical failure, there can be an alternative means of motive power, often an internal combustion engine, for the vacuum and milk pumps because milking cows cannot tolerate delays in their scheduled milking without suffering serious milk production reductions

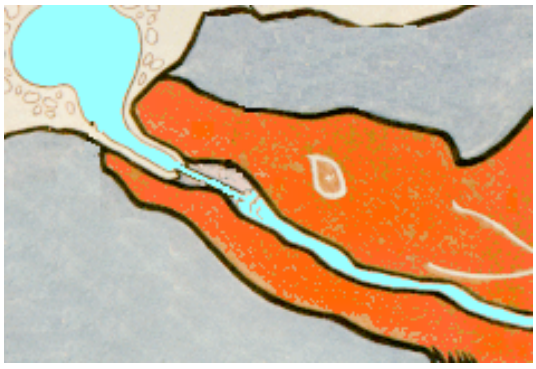
How Hand Milking Extracts Milk



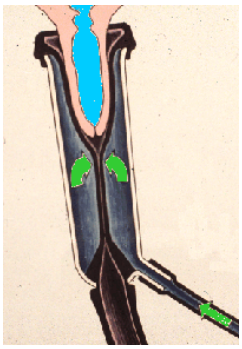
During hand milking of a cow, manual cleaning & massage of the udder stimulates milk let-down. The teat is closed at the base of the udder and then manual pressure is applied to the teat to force the trapped milk out of the teat opening. Hand milking is dependant on increased pressure within the teat to overcome the resistance of the teat sphincter. This is NOT the way milk is removed by nursing calves or milking machines.

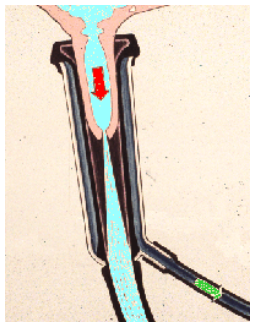
How Calf-suckling Extracts Milk

The presence of the calf and its "bunting" of the udder stimulates milk let-down. As a calf nurses a cow, it does not clamp off the base of the teat nor put much pressure on the walls of the teat. But as the calf sucks, a negative pressure is produced in the mouth. The pressure within the udder, created by atmospheric pressure and by milk letdown is greater than the area of negative pressure within the calf's mouth. The resistance of the teat sphincter is overcome and the milk flows rapidly into the calf's mouth (the area of reduced pressure).

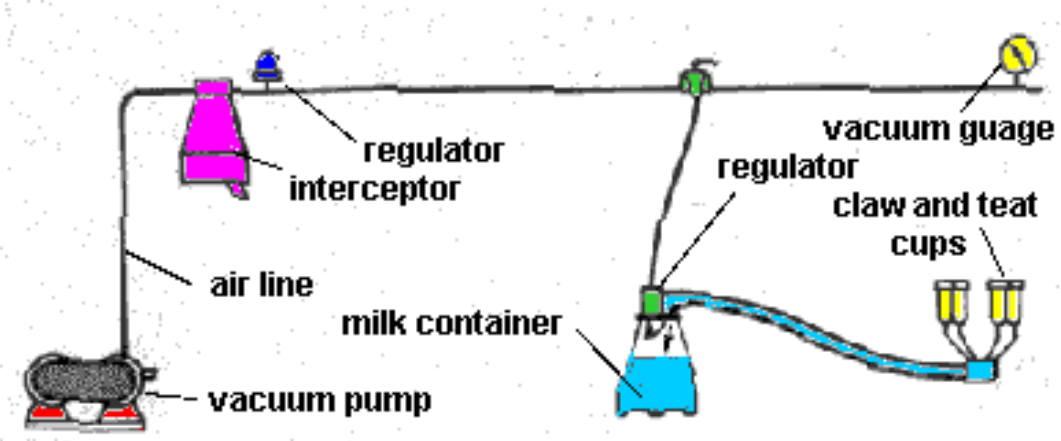


How the milking machine works... *A milking machine functions the same as a nursing calf. The reduced pressure within the shell- inflation causes the milk to flow out from the teat and udder and into the milking system.*





Pulsation System *The pulsation system allows the inflation (shell liner) to close and apply pressure to the teat end. It does this by allowing atmospheric air to enter between the shell and the inflation. The purpose is to massage the teat end and force tissue fluids back out of*



the teat end. This is a diagram of a very simple, older milking machine system. Yet it contains most of the components of the more modern and more complicated system.

Activity Answers

4

SO 4

Instructions to learner:

Group Field Trip, discussion and individual written report

Learner Workbook: Page 10 **Facilitator Guide: Page 14**

1. Describe the process of the harvesting of animal products?

Model answer(s):

The learner may capture answers such as:

MOHAIR: SHEARING

To simplify classing it is important that the following steps be followed:-

1. Crutchings

It is good policy to crutch Angora goats at 3 months (3 months growth of hair) to prevent unnecessary stained hair. At the same time the fringe (kuif) can also be shorn to ensure better vision for the goat.

2. Number of shearers

Do not use too many shearers - four to one classer is sufficient. In the case of two classers - six shearers may be used. Mohair is a fibre that takes time to class correctly and by rushing your shearing, you will not be able to class to your advantage. Do not urge your shearers to shear faster - rather make sure that they do a neat job.

3. Age groups

A good method to follow is to divide the Angora goats prior to shearing strictly according to age groups, e.g. mature goats, full-mouth goats, four to six tooth goats, two/tooth goats and kids. Start by shearing the mature goats first, followed by the full-mouth goats, etc. Also shear the wethers (kapaters) separately. Should their hair have the same fineness as that of the ewes, it can be grouped together - if different, keep separate.

4 Method of shearing

Hair from the heads (kuif) often causes problems and the best way of keeping this hair separate is to place a basket at the entrance of the catching pen and let each shearer shear off the head fringe and place it in the basket before commencing shearing. As already mentioned the adults must be shorn first. The reason for this is that if you shear adults after having shorn fine soft handling kids, the adult hair will appear to be rough and strong and you will be inclined to class it down.

Shear out the belly first and put it on the bellies table. The stain and Lox are then shorn and put on the stain and Lox table. By keeping the bellies apart, Lox and Stain cannot stain the clean bellies.

The short hair on the legs can thereafter be shorn separately. This will prevent any short hair becoming mixed with the fleece.

The fleece must now be shorn as evenly as possible and kept as intact as possible. The fleece is picked up and thrown on the fleece table, with the shorn side underneath so that all the properties can easily be seen.

5. Dividing the fleece

All stained, Lox and short pieces which may still appear in the fleece, are now removed. The neck, which is usually stronger than the main fleece, is then removed, followed by the britches and any seedy hair which may be present.

Should the fleece be very even, it can be kept intact. Often however, the fleece has to be divided into fine and strong parts, while some with good style-and-character should be kept separately from the ones appearing less solid. Should the hair on the back appear to be very weathered, it is also removed and added to the lines where it fits in.

Model answer(s):

The learner may capture answers such as:

CORRECT FLAYING OF A SKIN

1. Introduction

The factors which determine the suitability of a tanned hide or skin do not start with the curing process, but with the removal of the hide or skin from the carcass. When once it has been removed from the carcass, the handling it receives immediately thereafter is of vital importance for the retention of quality. The final shape of the hide or skin is more important than most people realise. The value of the processed hide or skin depends on the way in which the cutting lines are made on the carcass.

The preparation begins with flaying or the removal of the hide or skin from the animal after slaughtering, followed by curing of the hide or skin by the addition of salt to dry and preserve the material until it can be processed further into leather. By carefully following the various preparation steps the value of the leather can be conserved. The correct preparation steps are discussed below.

2. Slaughtering and flaying

Slaughtering should be done early in the morning or late in the afternoon when the temperature is low and the air is cool to prevent bacterial growth on the hide or skin. It is also important to bleed the animal well after slaughter, otherwise the blood stays behind in the skin and the blood veins will show in the grain surface of the leather. This can also happen when dead or very old animals are slaughtered. Poor handling of carcasses after slaughtering can also damage the skin.

2.1 Ripping lines

These are the cutting lines along which the skin is to be removed from the carcass. When the wrong lines are used, the value of the skin is reduced. The right ripping lines are shown in the figure to the right.

2.2 Hints on removing the skin

Blood should be drained from the carcass taking care that the minimum amount of blood contaminates the skin or comes into contact with the hide or the skin. This will discourage bacterial spoilage.

Use a sharp flaying knife with a rounded blade so as to avoid bad flays cuts on the hide or skin. Do not use the flaying knife where it is possible to simply pull the skin from the carcass. However, pulling too hard will result in "butchers strain" marks on the leather.

Remove the hide or skin from the animal immediately after slaughter and allow the hide or skin to cool off in a clean place out of the sun and off the ground to prevent bacterial contamination.

Blood and dirt on hides and skins can be washed off with clean cold water.

3. Curing

The aim of curing hides and skins is to make them resistant to bacterial attack, they can then be transported or stored until the tanner is able to process them. There are three methods commonly used for salt curing hides or skins, which are as follows.

3.1 Wet- salting

Cover the flesh side of the hide or skin with salt and stack the skins in a pile. The salt takes up the water inside the hide or skin and draws off a mixture of blood and water. Most bacteria will not increase in numbers in very salty water.

3.2 Dry salting

The salting hide or skin is hung in the shade to dry or dried in hot air in tunnels where the climate is wet. Dry salting is usually carried out in places where salt can be bought, but storage and transporting of wet salted hides is difficult. The method of application is the same as for wet salting. After the minimum treatment period of 48 hrs where the hides or skin have been in contact with the salt, the loose salt is shaken off and the hides or skins are then dried by hanging symmetrically along the line of the backbone over horizontal poles with diameters not less than 7 centimeters. The hides or skins are placed initially with the flesh side uppermost on the poles for drying and then turned over with the hair side uppermost to complete the drying on the wool side.

3.3 Air-drying

If it is difficult to get salt for curing, the skins can be dried by air, but only in dry climates. The skins should be dried in the shade, with sufficient air movement otherwise the outside of the skin will dry too fast, leaving the inside wet and the skin will rot on the inside. They can be hung over poles as described for dry salting or the skins can be stretched with strings from all sides in the frame to let the skin dry uniformly.

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:	116198	**NQF Level:**	1
Learner Name:			

Questions	Model Answers
1. Name 5 products of animal origin.	Feathers, milk, meat, eggs, mohair, wool, honey, manure, traction, bones, skins
2. Name 3 less well-known products of animal origin	Exotic fish, guano, royal jelly
3. How is meat harvested?	Through slaughter
4. What are the norms and guidelines that describe the grades of animal products called?	Meat classification system Wool classification system Mohair classification system
5. Name 2 factors that are important for meat quality.	Age, body conformation, carcass mass
6. Name 2 factors that are important for fibre quality.	Diameter, length and absence of foreign material
7. What is used to extract milk from cows?	A milking machine
8. What external factor that can be manipulated by a modern farmer influences egg production?	Daylight length
9. Name the raw product of animal origin that is used to manufacture glue and gelatin.	Hooves and horns

Assessment Feedback Form

Comments / Remarks	
Feedback to learner on assessment and / or overall recommendations and action plan for competence:	
Feedback from learner to assessor:	
Assessment Judgement You have been found: ❍ Competent ❍ Not yet competent in this unit standard	Actions to follow: ❍ Assessor report to ETQA ❍ Learner results and attendance certification issued
Learner's Signature:	**Date:**
Assessor's Signature:	**Date:**
Moderator's Signature:	**Date:**