FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Kenya Accelerated Value Chain Development

Livestock Component

BEST PRACTICES FOR SELECTIVE BREEDING FOR IMPROVED LIVESTOCK PRODUCTIVITY

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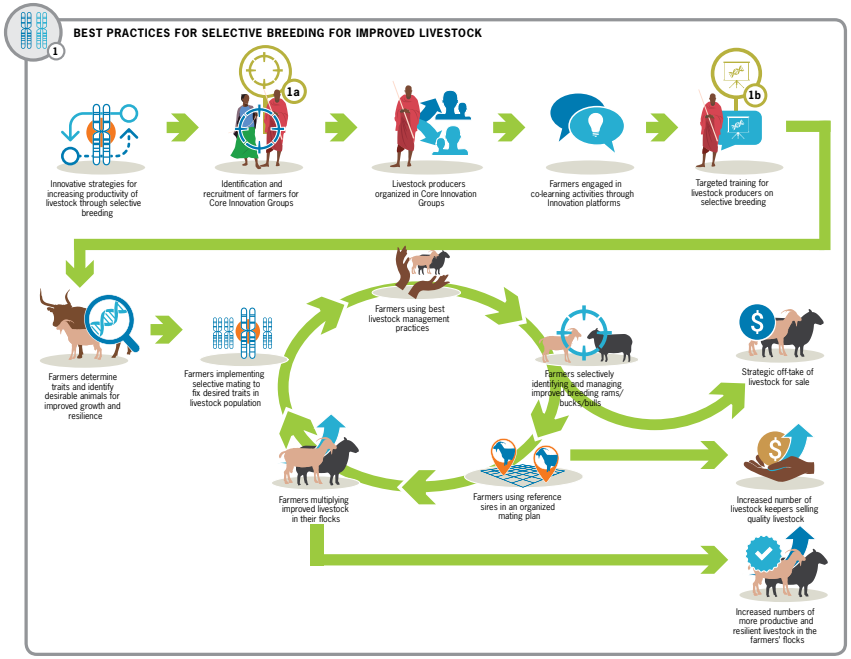
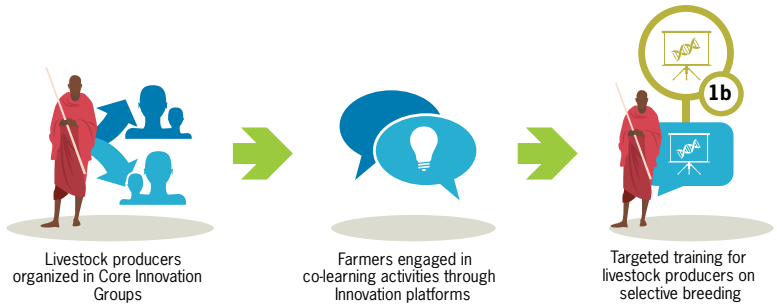
CGIAR

The Impact Pathway



This module focuses on this section of the Impact Pathway:



Impact Pathway - Concept: Katharine Downie | Design: Jodie Watt

MODULE 2

ENGAGE

This module is intended for use by extension personnel who are seeking to introduce innovative strategies for improving livestock productivity in a pre-determined area.

Activities in this module are reommended following those in **Module 1: ENQUIRE.**

The Feed the Future Kenya Accelerated Value Chain Development (AVCD) program seeks to widely apply technologies and innovations for livestock, dairy and staple crop (root crops and drought-tolerant crops) value chains in order to competitively and sustainably increase productivity, contributing to inclusive agricultural growth, nutrition and food security in 23 counties in the country. Supported by the United States Agency for International Development as part of the US government's Feed the Future initiative, its main goals is to sustainably reduce poverty and hunger in the Feed the Future zones of influence in Kenya.

In partnership with the International Crops for Research Institute for Semi-Arid Arid Tropics (ICRISAT) and the International Potato Center (CIP), International Livestock Research Institute (ILRI) will lead the implementation of AVCD. The three CGIAR centres will work closely with partners—county governments, NGOs, CBOs, private sector actors and other USAID-funded projects/programs, as well as leverage knowledge and best practices from academic institutions and foundations.

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Foreword

This is the second in a series of modules developed through the USAID funded Accelerated Livestock Value Chain project - Livestock component, to be used by livestock practitioners and development partners seeking to Improve livestock productivity in pastoral communities through better herd management. The main focus of these modules is to add value to the sustainable production, management and marketing of sheep and goats in pastoral systems using community focused interventions.

Community-based core innovation groups (CIG) form the backbone of the entire intervention. The CIG are common interest group platforms through which producers learn and practice improved herd management, through adoption of selected technologies and mutual sharing of knowledge and skills. It is also through the CIGs that the technology spreads among other producers and communities.

Through adoption of the practices presented in these modules, it is anticipated that the quality of animals, meat and milk products from local breeds of sheep and goats raised in pastoral systems will improve, resulting in increased resilience, improved incomes and improved nutritional status of pastoral households.

SECTION A

Group Dynamics

The Core Innovation Group (CIG) formed following participation in the processes of Module 1 provides a forum for training and co-learning among the livestock producers. It also provides opportunities for linking with public and/or private sector actors who could provide services to support improved livestock productivity.

The CIG members serve as the key contact point, and as trainers of other community members on skills learnt through the groups. Members of the CIG need to learn and work together in pursuit of a jointly defined vision that is shared by all and cogniscent of the different visions of men and women. Training on group dynamics and conflict resolution helps the CIG members to: Accept and determine to work collectively; Listen to, accept and in some instances, be prepared to adapt opinions and actions that may be different from their own.

NOTE: Facilitators need to take time and prepare training materials as outlined in Module 1: section B1.

A.1 Rules of Engagement

FACILITATOR ROLE

Create an environment that enables active participation in discussions: Be open to new experiences and learnings

Use your knowledge of the target community and determine actions that endear to the CIG members; play community "games" to build team spirit in the group.

Work with smaller groups to engage and listen to all participants, sometimes groups that are distinguished by gender may be required.

Selectively use CIG members to share experiences and present their learning points.

Encourage queries, exploration of topics and clarification points from participants.

Provide positive feedback, or negative and constructive feedback.

Take notes using charts that can be edited/ amended by all participants.

Basic principles when working with groups

RESPECT: All participants need to feel respected and know that their opinion matters.

REFLECT: Take time to listen and understand what participants are saying. Listen to both verbal and non-verbal communication.

REPEAT: Repeat key points raised by participants using words / phrases that enhance clarity in the matter being addressed. Ask to ensure that what you have paraphrased is what was meant.

INVOLVE: involve participants in determining ground rules of engagement and agree on time management.

INCLUDE: Be alert to ensuring that all participants have an opportunity to respond and air opinions; strive to get participants use real life experiences when emphasizing critical learning points.

INQUIRE: Follow up sections with queries and actions to re-enforce learnings and identify follow-up action points.

THREE KEY AREAS WILL BE PRESENTED. LEARNING AND DISCUSSIONS IN EACH AREA SHOULD TAKE PLACE WITHIN **1 HOUR**

A.2 Introduction to the Concept of Implementing Innovations as a Group

Key messages to portray:

- Working together, as men and women, strengthens communities and facilitates adoption of innovations: *"together we can do more."*
- Having a structured group facilitates engagement with the wider markets for inputs, services and outputs from sheep and goat enterprises.

Different factors and actions by CIG members can either make or break the groups. Knowledge of these should be used to strengthen the CIG and support community development in order to break dependency on external support.

A2.1 GROUPS VS INDIVIDUALS

Definition:

A group *consists of two or more people who have a common objective or task; An awareness of the group identity and boundaries; A set of agreed values and norms to be followed.*

The CIG *is a collection of individual male and female farmers brought together by a shared need and desire to improve the productivity of livestock in order to obtain better returns from the enterprise.*

PRACTICAL LEARNING ACTIVITY

Demonstrate how easy it is to break one stick (an individual) than to break a bunch of sticks (a group).

- Ask participants in sub-groups of 3 individuals to discuss:
  - i) Positive aspects of working together rather than working individually
  - ii) Negative aspects of working together rather than working individually
  - iii) Key actions that would be required by members to facilitate operation of a group
  - iv) Any situations where working individually would be beneficial
- Have one member of each group to share points from their discussion (document information on a chart)

Note and draw out from participants aspects in table below:

Some advantages of working as a group	Risks that need to be managed in groups
Opportunity to learn from others with a different view point.	Risk of having a few people dominating actions.
Interaction and communication between group members that enhances cohesiveness in communities.	Risk of fear to be different from others Risk of jealousy and mockery of other's failures
Ability to learn how to deal with mistakes through exposure to alternative ways of managing challenges.	
Opportunity to improve efficiency of resource use and service delivery resulting from increased scale of operations through groups.	Risk of being ostracized as a woman in a male dominated environment.
Co-creation of solutions to challenges by group members each contributing a segment of the solution.	

FACTORS THAT RESULT IN SUCCESS OR FAILURE OF GROUPS

The facilitator needs to present and interactively ensure all present understand the key factors that lead to successful group actions and those that may result in group failure:

Factors that lead to successful groups

- Member driven group formation; Members with common interest.
- Jointly agreed group actions; Common values, democratic decision-making.
- If joint agreement cannot be reached according to gender lines, arrive at jointly agreed gender sensitive actions.
- Clearly defined rules of engagement; clear roles and responsibilities for each member.
- Commitment and willingness to learn and adapt to change.
- Active participation of members in activities.
- Capable and dedicated leaders; Competent advisers.
- Effective management procedures, communication.
- Sufficient resources with efficient resource management.

Factors that result in failure of groups

- Undefined objective for forming group; inadequate buy-in by members
- Ineffective planning; poor leadership
- Negligence in management
- Inadequate training for leaders and members
- Failure to identify and minimize risks
- Ineffective communication

Rules and regulations for a group

Rules and regulations guide the affairs of a group of people and are the basis for the constitution of the group. They are generally designed to protect member's rights and properties, and to enable a transparent and democratic management of the group's business.

NOTE:
Rules need to be simple, be aligned to the nature of the group's activities.

Rules should be designed in response to the needs of the group targeted, while recognizing social differences within the group.

Rules need to be recorded and made available to all group members.

Rules should be periodically reviewed and modified as the environment changes.

Each CIG needs to frame their own rules and regulations.

TASK:

Give participants some time to discuss in smaller groups what kind of rules and regulations they should have in place for their CIG; then ask for presentations by representatives from the small groups. Ask if participants wish to be divided in gendered groups?

Guide **interactive discussions** to ensure that the following are also outlined during the presentation.

MEMBERSHIP

- *Who may join the group*
- *What should be the group size (range)*
- *Procedure for joining the group*
- *Handling of non-conforming members: sanctions or penalties for violation of group rules*
- *Procedures for leaving the group and cancelling membership*

GROUP MEETINGS

- *Frequency, timing and locations of meetings*
- *Methods for notification of planned meetings*
- *Penalties for frequent absenteeism from group activities*
- *Number of members needed to have a quorum*

A2.2 GROUP LEADERSHIP

Leadership is central to the success of any group. Group members need to take time to define and outline their expectations from leadership in their CIG.

[A separate meeting should be held for the group members to identify and elect people meeting criteria outlined to be leaders for a defined time period]

Task:

Give participants some time to discuss in smaller groups the organizational structure and leadership criteria they should have in place for their CIG; then ask for presentations by representatives from the small groups.

[Guide interactive discussions to ensure that the following are outlined during the presentation]

- Organizational structure for leadership team.
- Roles and responsibilities for different levels of leadership.
- Communication structure for the group.
- Tenure of office for leaders.
- Criteria for election/ nomination to a leadership position.
- Measures on how to address and resolve conflicts at different levels.

Identifying different office bearers for CIG

The facilitator should give the qualities of good leaders to guide the CIG members prior to selecting who should lead the CIG.

- **Honest, hospitable:** Accountable and open to other people's views (not a dictator)
- **Energetic, enthusiastic and polite:** Respectful to others
- **Adaptable and flexible:** An adopter of change- not fixed in their own ways.
- **Knowledgeable and respected:** Able to make informed decisions

KEY MESSAGES

- Leaders need to be able to live up to their roles and responsibilities.
- Election/ nomination to a leadership position must be credible, free and fair.
- Leadership roles must equitably represent the different gender and age categories involved in the group.
- Communication is very important for proper function of the group.

A2.3 GROUP MEETINGS AND COMMUNICATION

Group meetings provide a platform for meaningful interactions between group members on specified subjects of common interest, and assists the group to perform its functions. It is important that meetings are organized and conducted effectively to ensure the proper results are achieved. Members should be well informed of dates, time, place and agenda of each meeting. Where necessary meetings should be accessible for women who spend majority of their time at homesteads due to domestic roles and responsibilities.

Regular meetings are important as they provide a platform for members to:

- Identify, discuss, plan and monitor group activities
- Interact with and learn from each other
- Disseminate information on planned future actions
- Raise information on emerging issues
- Assign roles and review progress on past actions
- Follow up on accountability of leaders elected in the groups

Note: Meetings should be structured and moderated by a Meeting convener:

1. Open the meeting as defined by the community (e.g. with a word of prayer).
2. Leader needs to welcome the participants.
3. Members present sign a list of attendance.
4. Introduce the meeting agenda and ensure members present agree on its content.
5. Review actions from previous meeting as noted in the minutes.
6. Discuss items listed in the meeting agenda; strive for participation by all members present.
7. Review decisions/resolutions of the meeting and key action points.
8. Close the meeting.

GROUP ACTIVITY: IMPORTANCE OF COMMUNICATION

[Guide interactive small group discussions]

- Why is communication important?
- How should CIG members communicate at different levels (and across different genders) ?
- What key principles should guide communication among group members?

Key messages when communicating

1. Be clear that the forum is correct:
   - Who is the message addressed to?
   - Who else will be affected by the message?
   - What can the message affect either now or in the future?
2. Have a clear purpose – a clear reason/statement (think before communicating).
3. Communicate in an appropriate style for the audience (elders, youth, women).
4. Listen
5. Be responsive, seek clarity and follow-up
   - Ask questions
   - Provide insight to clarify issues raised

A2.4 CONFLICT RESOLUTION

People who come together in a group are different. They have different experiences, different expectations, different attitudes, and have different ways of addressing situations. CIG members should understand that these differences may lead to conflicts within the group. Conflicts are not necessarily negative. Differences in opinions and ways of doing things could lead to innovative solutions that benefit the wider community.

Inadequate communication, and lack of mutual acceptance and trust among CIG members can result in conflicts. Unresolved conflicts negatively affect relationships among group members and hinder the functionality of the CIG.

Have guided interactive group activities where participants are given conflict scenarios relevant to their environment that they need to resolve (20 minutes)

At the end of the group activity, members from each small group should outline:

- What their challenge was?
- What were the possible causes of the challenge?
- What were the most difficult issues to deal with when seeking a solution to the challenge?
- What key lesson did they learn about listening to others when a challenge arises?
- If they were able to resolve the challenge-- How did they resolve the challenge?

Example of a conflict management plan:

1. Acknowledge existence of a challenge

- Admit that a conflict has arisen.
- Determine its impact on the CIG.
- Openly discuss the conflict including what led to the situation and who is affected.

2. Seek to understand the situation

- Identify issues central to the conflict.
- What are the different positions / options?
- Separate the facts from emotional responses.

3. **Seek to reach agreement (write/ note issues on paper for clarity)**

- Request CIG members to outline possible solutions to the issues they raise.
- Note risks to different solutions offered.
- Create space and allow time for different opinions to be heard.
- Strive to adopt the most effective, collectively agreed solution (Look for win-win options).

4. **Review and follow up**

- Review and follow-up to see if the conflict has been satisfactorily resolved or if not what else needs to be done.
- Solicit viewpoints from silent members in the group.
- In exceptional cases an external person acceptable and respected by the different parties involved may need to be called in to moderate conflict resolution.

Review the impact pathway for the project

SECTION B

Farmer To Farmer Learning

Livestock producers face complex, dynamic and location-specific issues and challenges that cannot be tackled with broad recommendations and conventional extension methods .

Farmer to farmer learning provides an opportunity for livestock keepers to interact and share lessons learnt from adoption of different practices. The meetings also ease the introduction of new practices to communities, and expose farmers to alternative options for improving their livestock enterprise.

B.1 Process

B1.1 SELECT THE FARM FOR LEARNING

In order for farmers to learn about best practices for sheep and goat production from a practicing farmer, the project/ facilitating team needs to identify a farm for training.

The farmer and farm selected need to meet certain criteria:

- Be operating in a similar environment to that of the farmers.
- Be implementing improved herd management practices for the species of interest.
- Be interacting with and adapting to the livestock marketing sector within the area.
- Be willing to share knowledge and learn from other farmers.

Once a farm has be selected:

- Notify the owner and provide dates well in advance so that s/he makes the necessary preparations.
- Outline the topics to be covered during the visit to the farmer.
- Provide details on the number and type of farmers to expect.
- Ensure that the farmer is clear on what is expected from them, and the costs that the project will cover.

B1.2 SELECT THE FARMERS TO PARTICIPATE IN THE TRAINING

Criteria for farmers to represent the group in the training needs to be determined in consultation with the community group members. Care should be taken to ensure all categories of group members are represented in the training, notably men, women and youth. In making the choice on members to undertake the training, the following criteria is important:

- Be a resident within the community and a member of the CIG.
- Be able to communicate and share information with others.
- Have a good understanding of issues/ challenges of rearing sheep and goats within the area.
- Be an individual of integrity who is also respected within the community.

(During the exposure visit, it is important that the farmer group is accompanied by the area chief/local administrator and an official from the relevant county government ministry)

Expectations of farmers selected to participate in the training

Clarify to the selected farmers what is expected of them during the visit:

- Be prepared to engage and actively participate in the training.
- Note new experiences and new knowledge.
- Be prepared to share learnings with the larger community on their return.
- Importance of respecting the farm and the farmer that they visit.
- Carry personal effects to use during travel.
- What costs will be covered by the project.

B1.3 LOGISTICS DURING THE VISIT

The project team should make sure the following logistics arrangements are made:

- Transport of farmers to and from their homes.
- Accommodation and meals for the farmers.
- The farmers should know the purpose and duration of the visit.

SECTION C

Animal Choice Exercise

Livestock keepers in the CIG need to understand their animals. They need to be able to outline the importance of different attributes on their animals, and to be able to implement different operations on their animals as follows:

- Tag and identify individual animals
- Handle the animals adequately
- Tell how old the animals are using dentition
- Know conformation aspects that affect the market price of their animals
- Determine the weight of their animals

REQUIREMENTS

Farmer groups

Sheep and/or goats

Ear tag and applicator

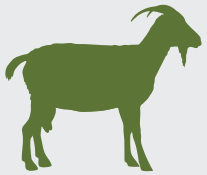
Portable scale/ Hand scale with a leather sling

Weight measuring band

Animal record cards

Body Score Cards

Dentition cards

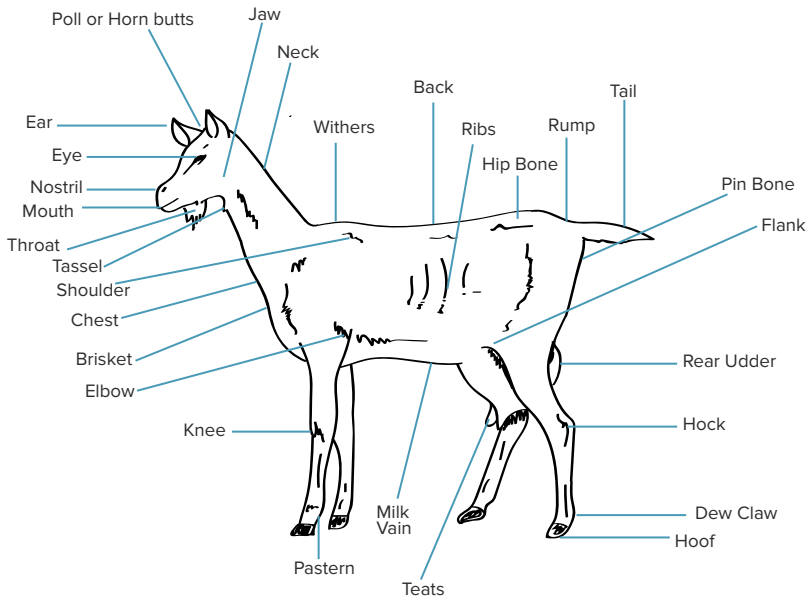


C.1 General Information on Sheep and Goats

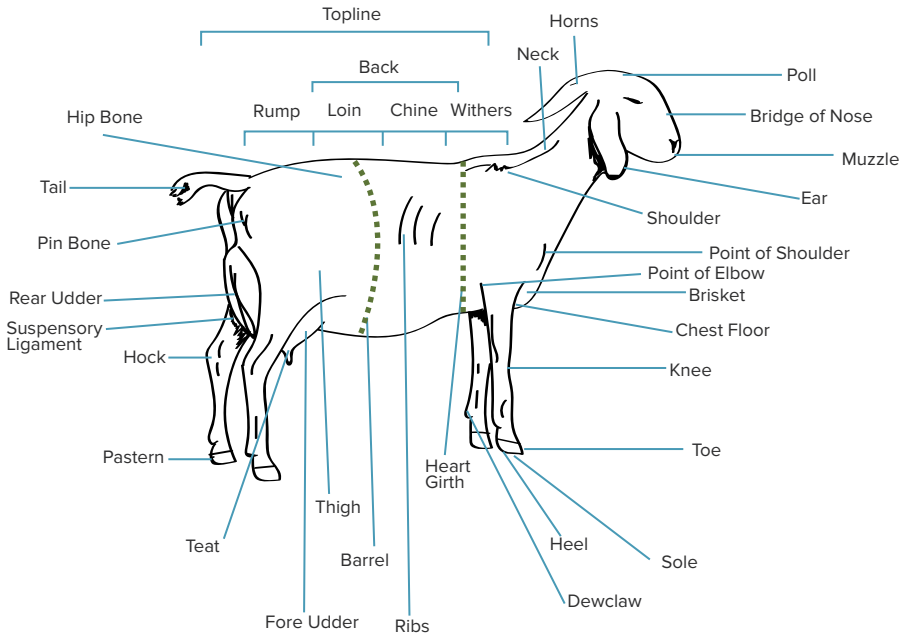
The life expectancy of sheep and goats is about 10 to 12 years. The length of the animal's productive lifetime tends to be much less.

Productivity for female animals (ewes and does) usually peaks between 3 and 6 years of age, and then begins to decline after the age of 7.

The parts of sheep and goats are illustrated in the figures below:



Parts of a dairy goat



Parts of a sheep

PROCESS

The CIG farmers (30 members) will be divided into two groups.

One group of farmers should be requested to bring sheep and the other group will bring goats.

Each farmer will bring 2 female animals (ewes/does) and 1 male animal (ram/buck) that they consider to be very good in their flock.

The CIG members at the training should further be sub-divided into groups of 5-8 people. These smaller groups will carry out animal grading and scoring exercises.

C.2 Practical Exercise

Ranking animals

Female Animals	***Male animals***
• Randomly assign the female animals that have been brought by the farmers into 5 groups of 6 animals each.	• Randomly assign the male animals that have been brought by the farmers into 3 groups of 6 animals each.
• Ask each small group of farmers to rank animals in the sub-groups independently in order of preference (1st, 2nd , 3rd, ...).	• Ask each small group of farmers to rank animals in the sub-groups independently in order of preference (1st, 2nd , 3rd, ...).
• Ask them to indicate their reasons for the ranking—and document these on a card.	• Ask them to indicate their reasons for the ranking—and document these on a card - Male animals all together.

At the end of the ranking, have each group provide feedback on the scores given and reasons for ranking.

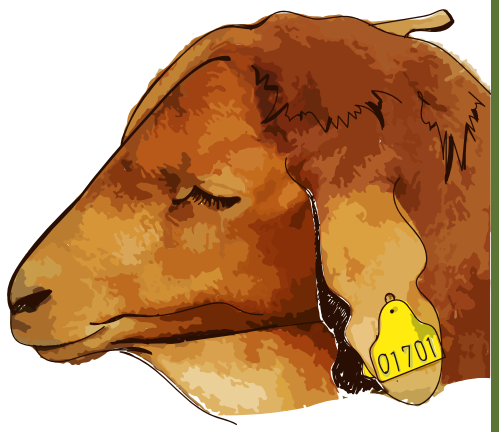
Note, do not have a detailed discussion on ranking--after the training on animal scoring, re-evaluate the ranks given by each group.

C.3 Practical Exercise

C3.1 ANIMAL IDENTIFICATION

Animal identification is important for keeping records on the performance of each individual animal.

The Sheep and goats can easily be identified using unique numbers written on an ear tag as shown in the picture.



PROCEDURE FOR TAGGING:

- Dip the tags and applicator in disinfectant. *(Ensure Tags have a number before tagging.)*
- Restrain the animal in the standing position.
- Clean ear with methylated spirit.
- Clip tag into ear by piercing it with the help of an applicator, avoiding ear veins.

NOTE: The tag is best placed as near to the head as possible to reduce the chances of ripping.

The number should be on the outside.

Placing tags in opposite ears to denote the animal's sex can help sort animals in large flocks.

Some uses of written records on animals

- For monitoring the growth and development of the animals.
- For monitoring reproductive performance of the animals.
- For monitoring health and treatments of animals.
- For determining which animals to migrate to different pastures based on their use and productivity.
- For making decisions on sale or culling of animals.

The types of records to keep at the outset include:

- Animal pedigree – Sire and Dam of the animals
- Weight records – birth weight, weaning weight and yearling weight
- Milk records
- Health records
- Mating/breeding records

Example of animal record cards:

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Individual Animal Recording

Pedigree information

Animal		
Animal Name /ID	Date of Birth	Type of birth (Single / Twin / Tripple)
Breed / App. percent crosses:	Sex (Female F / Male M)	

Sire	Dam
Sire Name /ID	Dam Name /ID
Date of Birth (Sire)	Date of Birth
Breed / App. percent crosses:	Breed / App. percent crosses:

Weight and tape records

	Date	Weight	Heart girth	Body length	Tail length	Tail width	Comments / Remarks (incl. weaning date)
Birth							
3 months							
6 months							
9 months							
1 year							
Slaughtered / Sold							

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Individual Animal Recording

Fertility records

Date	Event			Comments / Remarks
	Service / Lambing	Parity Number of Ewe	Number of Lambs born	

Vaccination and Treatment records

Date	Event (Disease / Treatment / Slaughtered / Other)	Weight	Comments / Remarks

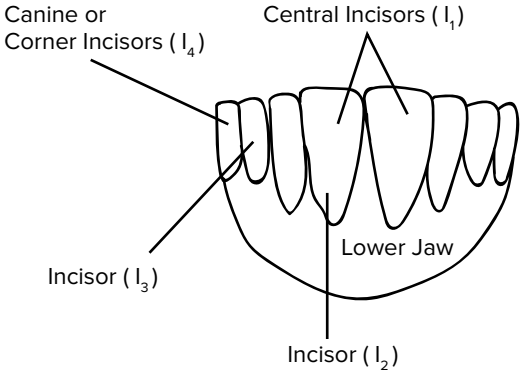
C3.2 DETERMINING THE AGE OF ANIMALS USING DENTITION

Many livestock keepers estimate the age of their animals based on their size and level of maturity exhibited. This often results in poor estimates. It is relatively easy to assess the age of sheep and goats using their dentition:

- **Mature sheep and goats have 32 teeth, of which 24 are molars and 8 are incisors.**
- **All incisors are in lower jaw.**
- **The dental formula for sheep and goats is as follows:** ***0/4 incisors, 3/3 pre-molars, 3/3 molars.***

Display of Teeth in Goats/ Sheep

Below is a diagram of the incisors associated with the lower jaw. These incisors are the teeth that can easily be used to age an animal. In this diagram, all the incisors are permanent teeth.

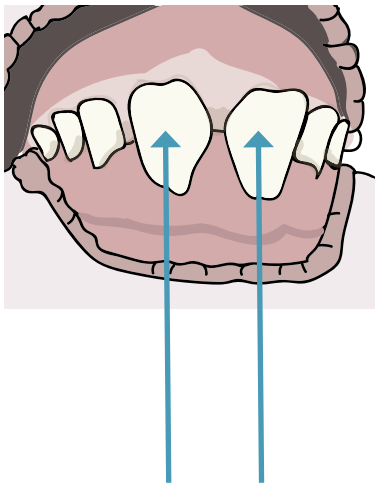


Estimated age for sheep and goats with different numbers of erupted permanent incisors

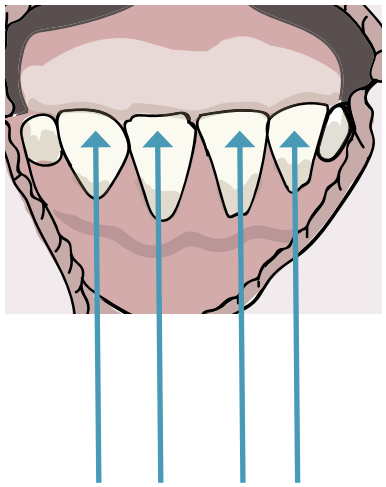
No. of permanent incisors	ESTIMATED AGE RANGE	
	SHEEP	**GOAT**
0 pair	Less than 1 year	Under 1 year
1 pair	1 - 1½ years	1 - 2 years
2 pairs	1½ -2 years	2 - 3 years
3 pairs	2½ -3 years	3 - 4 years
4 pairs	More than three years	More than four years
Broken	8 – 12 years (aged)	10 years (aged)

PICTORIAL ILLUSTRATIONS OF AGE IN SHEEP AND GOATS

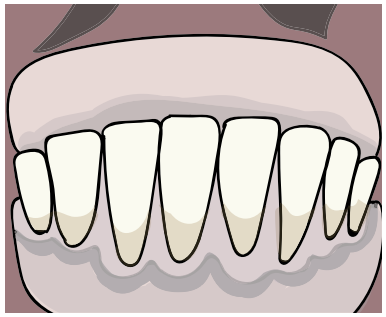
SHEEP



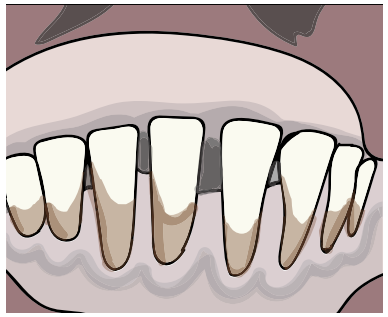
1 year: Two incisors are permanent (black arrows).



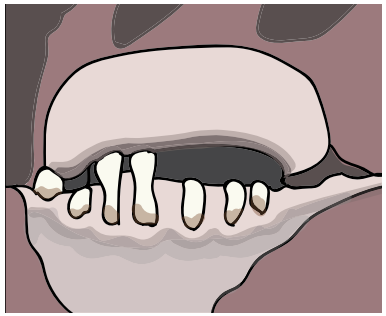
2 years: Four incisors are permanent (black arrows).



4 years: "full mouth." All incisors are permanent.

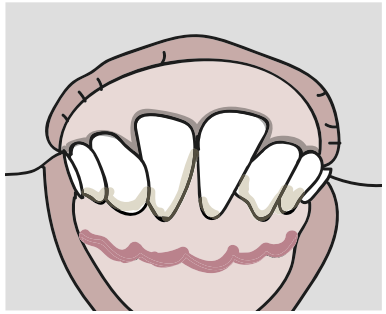


6-8 year old sheep. Notice the wide spacing between the teeth.

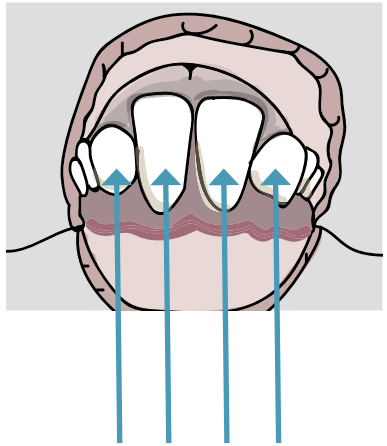


8 – 12 years. Dentition of an extremely aged sheep (frequently referred to as a "broken mouth." Notice how this ewe has severely worn or missing teeth, with receding gum lines.

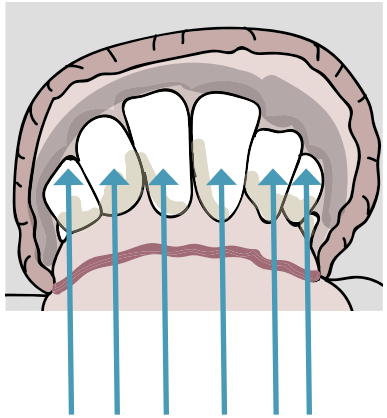
GOATS



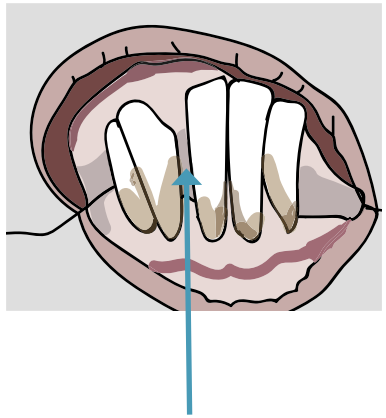
10 months- 1 year. All the teeth are still baby or deciduous teeth



1.5-2 years Four incisors are permanent (black arrows).



3 years. Six incisors are permanent (black arrows).



10 years (All the incisors are permanent and worn. The arrow shows where this goat is missing an incisor tooth)

C3.3 SCORING ANIMALS BASED ON THEIR BODY CONDITION

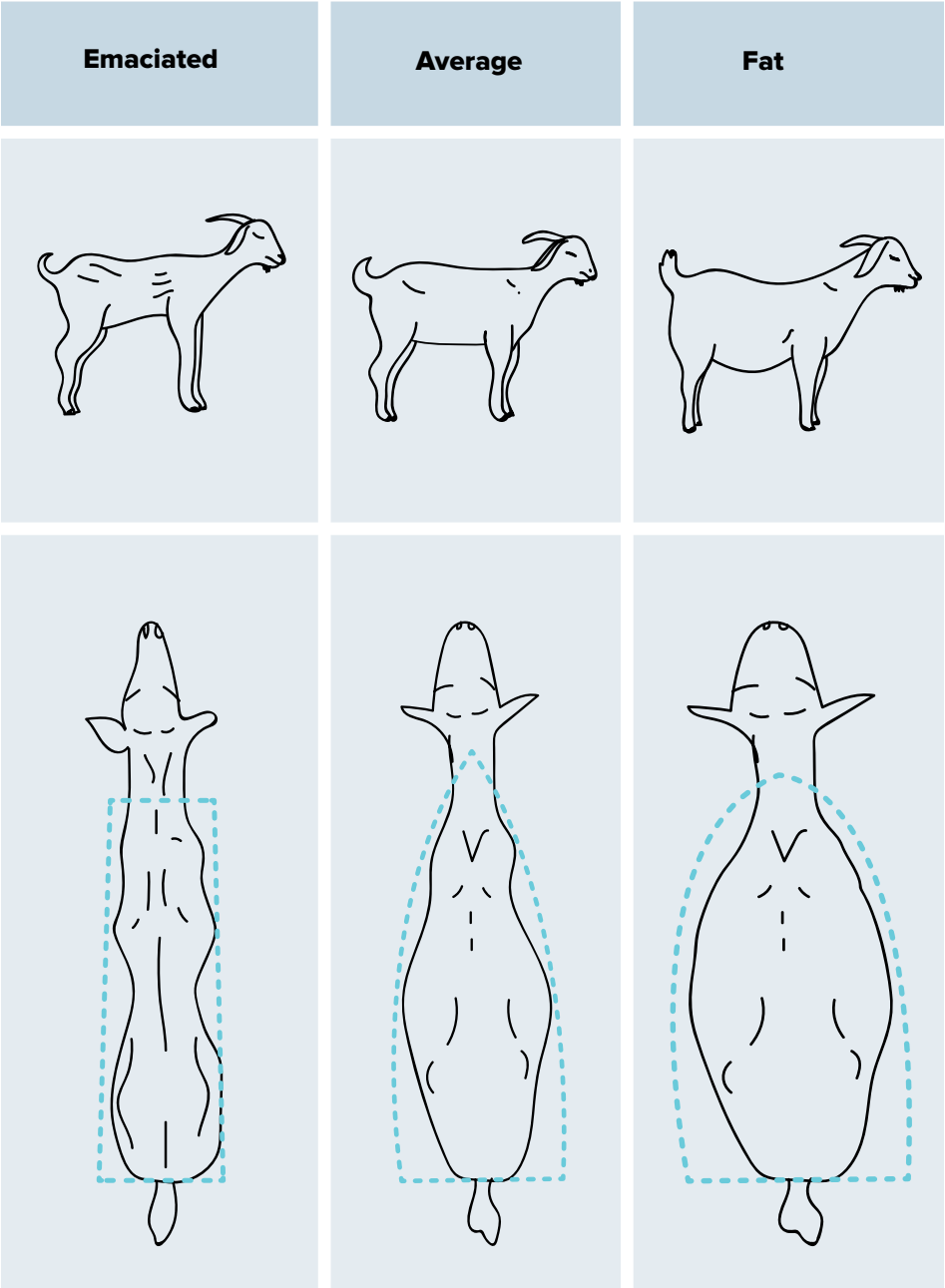
Animal scoring is important for purposes of grading and selecting breeding animals. Scoring is based on feeling the level of muscling and fat deposition over and around the vertebrae in the loin region. A body condition score estimates the condition of muscling and fat development.

The Body Condition Score of sheep and goats is rated on a scale of 1 to 5, with 1 being emaciated and 5 being extremely fat.

Body Condition Scores are

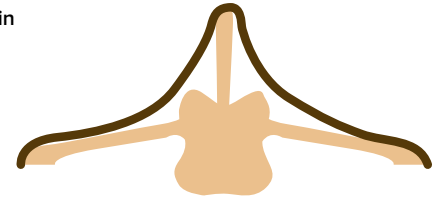
- a practical management tool to optimize production of the flock.
- can quickly tell the producer whether the nutritional needs of the animals are being met.
- Provide an indicator of potential reproductive success; Very thin or fat female animals are less likely to breed or produce twins successfully. Such animals may also have increased difficulty giving birth.

Body condition scoring involves feeling the muscle and fat along the backbone between **the last rib and the front of the hip bones** – the lumbar vertebrae of the spine.



BODY CONDITION SCORE (BCS) GUIDE

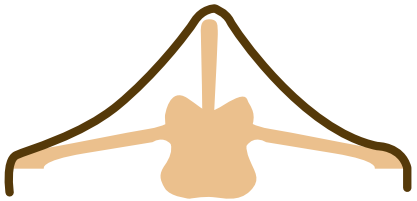
BCS 1
Very thin



No fat and very little muscle on the backbone and ribs. Seriously low body condition. Quite unacceptable – prone to disease and at risk of death.

Spinous process	Rib cage	Loin eye
Easy to see and feel, sharp	Easy to feel and can feel under	No fat covering

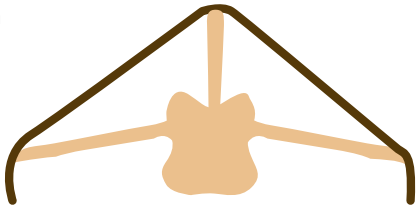
BCS 2
thin



A small amount of muscle along the backbone but no fat. The least acceptable condition for thrift. Perhaps acceptable for dry sheep when the feed is short but a clear indication that nutrition requires attention.

Spinous process	Rib cage	Loin eye
Easy to feel, but smooth	Smooth, slightly rounded, need to use slight pressure to feel	Smooth, even fat cover

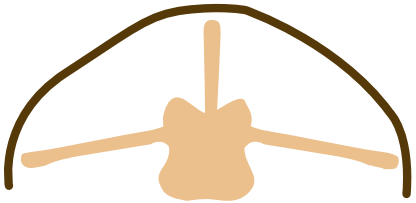
BCS **3**
Good Condition



Good level of fat and muscle with rounded ends of ribs and top of backbone. A good level for Merino ewes from joining to lambing and **an ideal condition for young sheep**.

Spinous process	Rib cage	Loin eye
Smooth and rounded	Smooth, even feel	Smooth, even fat cover

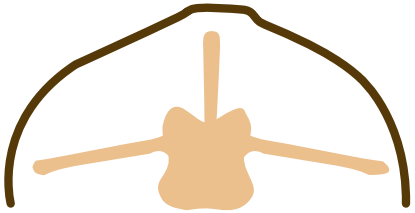
BCS **4**
FAT



Over-round across backbone – lots of muscle and fat. Tending towards over-fat.

Spinous process	Rib cage	Loin eye
Can feel with firm pressure, no points can be felt	Individual ribscan not be feltbut can still feel indent between ribs	Thick fat

BCS **5**
OBESE



Can't feel the backbone or ribs.
Definitely over-fat. Too fat for slaughter.

Spinous process	Rib cage	Loin eye
Smooth, no individual vertebra can be felt	Individual ribs can not be felt. No separation of ribs felt	Thick fat covering, may be lumpy and "jiggly"

C3.4 DETERMINING THE WEIGHT OF ANIMALS

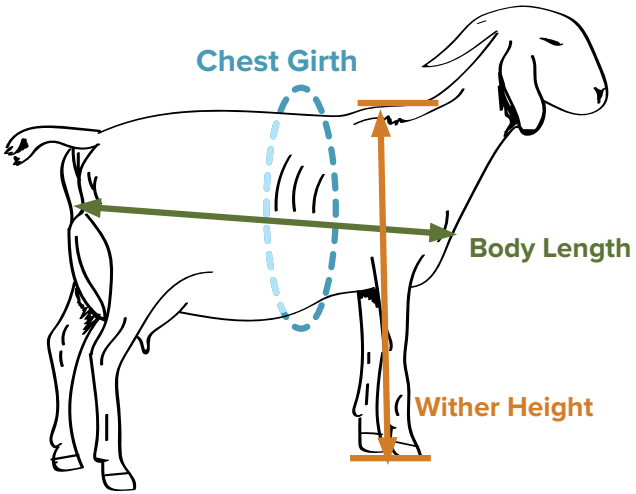
Most livestock keepers estimate the weight of their animals by looking at their condition (termed “eye balling”).

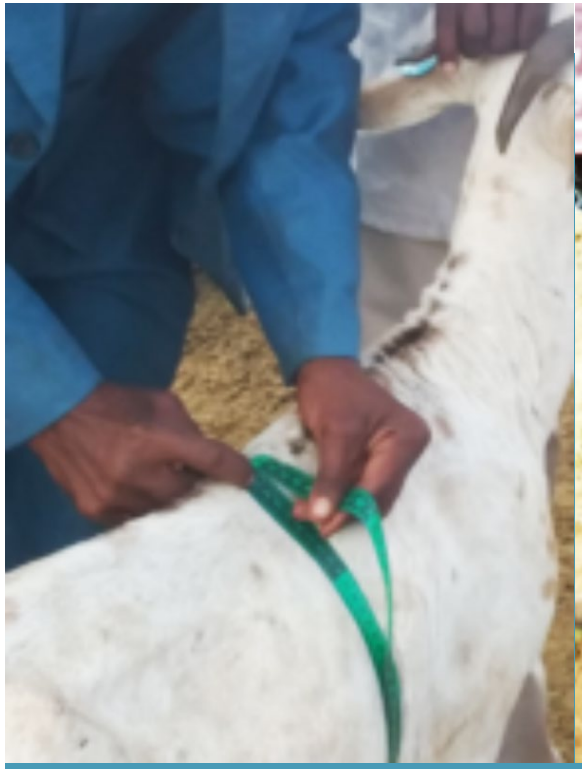
The weight of an animal can be quite accurately estimated using a tape measure/ weigh band.

Weigh band: A simple tape measure that predicts the live-weight of an animal from measuring its girth. The band should be calibrated against a spring balance or platform scale for accuracy because there are differences in weights between breeds.

When using the tape measure, the animal must be standing squarely on level ground.

- The tape is then run under the animal, behind its front legs and up to the top of its shoulders (chest girth measurement).
- The second measurement is of the body length of the animal as illustrated in the picture below:





TO ESTIMATE THE WEIGHT WITHOUT A CALIBRATED BAND, USE THE FOLLOWING FORMULAE:

1. Measure the chest girth (= C)
2. Measure the body length (= B)
3. Multiply (C x C x B) and divide by 300

Taking weights with a Spring balance

The spring balance can be hung from a tree or suspended from a metal tripod.

Small pocket spring balances can be used to weigh lambs/kids.

The animal is lifted into a canvas, which is then hooked on the scale. Once the sheep/goat is still and all four feet are clear of the ground, the weight can be read on the scale. The animal is then lifted down.

C.4 Practical Example of Flock Ranking

In the small groups that were used to evaluate animals, take measurements on the top 3 ranked animals in each cohort: Weight, length, height, age by dentition

The results collected through the exercise should be documented as indicated in the table below for discussion:

Species	Sex	Age (Yrs)	Weight (kg)	Heart girth (cm)	Length (cm)	Height (cm)	BCS	Rank	Reason

Discuss with the farmers the implications of the different measures against the scores they gave for the animals at the beginning of the exercise.

NOTES

NOTES

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