INITIATIVE ON
Sustainable Animal Productivity

Participatory training and mentoring material on feed and nutrition management for dairy farmers

Bayissa Hatew, Mamusha Lemma and Melkamu Derseh

International Livestock Research Institute

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About SAPLING

CGIAR's Sustainable Animal Productivity for Livelihoods, Nutrition and Gender Inclusion (SAPLING) is working in seven countries focusing on livestock value chains to package and scale out tried-and-tested, as well as new, innovations in livestock health, genetics, feed and market systems. SAPLING aims to demonstrate that improvements in livestock productivity can offer a triple win: generating improved livelihoods and nutritional outcomes; contributing to women's empowerment; and, reducing impacts on climate and the environment. Its seven focus countries are Ethiopia, Kenya, Mali, Nepal, Tanzania, Uganda and Vietnam.

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Contents

Introduction

Urban and peri-urban dairy farming are emerging as an important component of the milk production system. The sector contributes to employment, asset generation and poverty alleviation. However, there are challenges affecting the sector. Feed and feeding management is one of the challenges facing dairy farmers.

Dairy farmers have limited knowledge and skills about feed resourcing mechanisms (including improved forage cultivations and efficient use of locally available feed resources), feed budgeting and planning, feed farm record keeping and postharvest feed handling and using (including feed storage, processing and diet optimization). Since feed cost accounts for more than 70% of all dairy production costs, dairy farmers need to be equipped with knowledge, skills and practices in fodder/feed production, improving the quality of on farm available feed resources and feed conservation. Dairy farmers must also make decisions based on an analysis of properly kept dairy farm records.

Training objective and intended learning outcomes

The overall objective of the training and mentoring is to increase milk production and productivity by developing the knowledge and skills of female and male dairy farmers in improved dairy farm management practices.

By the end of the training and mentoring, dairy farmers will be able to:

- Apply fodder and forage production and conservation strategies for dairy cows at the farm level.
- Optimize and use on farm available feed resources for dairy cows.
- Produce simple concentrate ration on the farm.
- Improve milk production and productivity by properly feeding dairy cows.
- Balance gender roles in dairy cattle feeds and feeding management.
- Minimize feeding costs in dairy production.

Training content

- Fodder and forage production and use at the farm level
- Optimization and conservation of on farm available feed resources for dairy cows
- Balanced ration development and production of simple concentrate at farm level
- Proper feeding of dairy cows for improved milk production and productivity
- Feed budgeting and planning

Training and mentoring approach

The training and mentoring process adopts an experiential and collaborative learning approach drawing on dairy farmers' knowledge and experience. Learning activities are arranged in a way that encourages farmers to go through a process whereby they first reflect on their experiences. Then, they link these reflections to new information introduced and how they can apply it. During the training, farmers will pause and reflect from time to time on what they have learned, relate it to their experience and think about how they can apply it. Exploring farmers' views and experiences will enable the facilitators to identify knowledge gaps and introduce new knowledge to address these gaps. Figure 1 shows the learning activities and process.

Unlike conventional training, collaborative and experiential training starts with what the participants already know or their experiences (Exploration). This encourages farmers to learn from one another, explore and analyse the problem (knowledge and practice gaps), own the problem and seek solutions (new knowledge). The exploration stage will also help trainers adjust content and depth to the needs of farmers (major knowledge and practice gaps). No PowerPoint presentations will be used for community training (instead a checklist of talking/discussion points will be used to

structure the flow and progression of learning). Pictures/posters, storytelling and questions will be used to facilitate discussion/experience sharing.

Then, new knowledge is introduced to address knowledge and practice gaps or supplement farmers' understanding/experience in an interactive way. Key takeaway action messages are communicated to integrate and reinforce learning and motivate farmers for acting.

This will lead to engaging farmers to identify action points that they will take individually and/or collectively to apply the learning. The action points also serve as the basis for providing monitoring and mentoring support for farmers after the training.

Figure 1: Collaborative and experiential training process.

Learning activities	Methods	Outcomes
Exploration and analysis	Strategic questioning, challenge scenarios, storytelling, role-plays	Community awareness created; knowledge and practice gaps identified
Introduction of new knowledge	Interactive, picture-supported training/ communication	Knowledge and practice gaps addressed; new knowledge/understanding created
Learning integration and reinforcement	Key learning points and action messages	Confidence, action motivation
Action planning and support strategies	Action planning/goal setting questions	Ownership and action commitments

The training will use a mixed and couple's training approach, where applicable, to ensure knowledge application and increase outcomes. Involving partners in the training will ensure better articulation of dairy farmers' problems and contextualization of the training content. This will also help facilitate training application (outcomes) as the partners continue supporting the dairy farmers after the training. Participating couples (both wife and husband) in dairy farmer training and mentoring will increase collaborative learning, joint actions, balanced role sharing and training application at the household level.

A training transfer action plan will serve as the basis for providing household based mentoring and monitoring support for dairy farmers. The household based mentoring approach[1] will involve not only the household head, which probably is a man, but it involves all members of the household (husband, wife, children and caregivers). In addition to transforming household gender relations and division of work, the approach will facilitate collaborative learning and action among household members that will lead to the adoption of improved dairy management practices as a family business. Figure 2 shows the household based mentoring process.

1. Please see Lemma et al. (2016) for more information.

Figure 2: Overview of household based mentoring process.

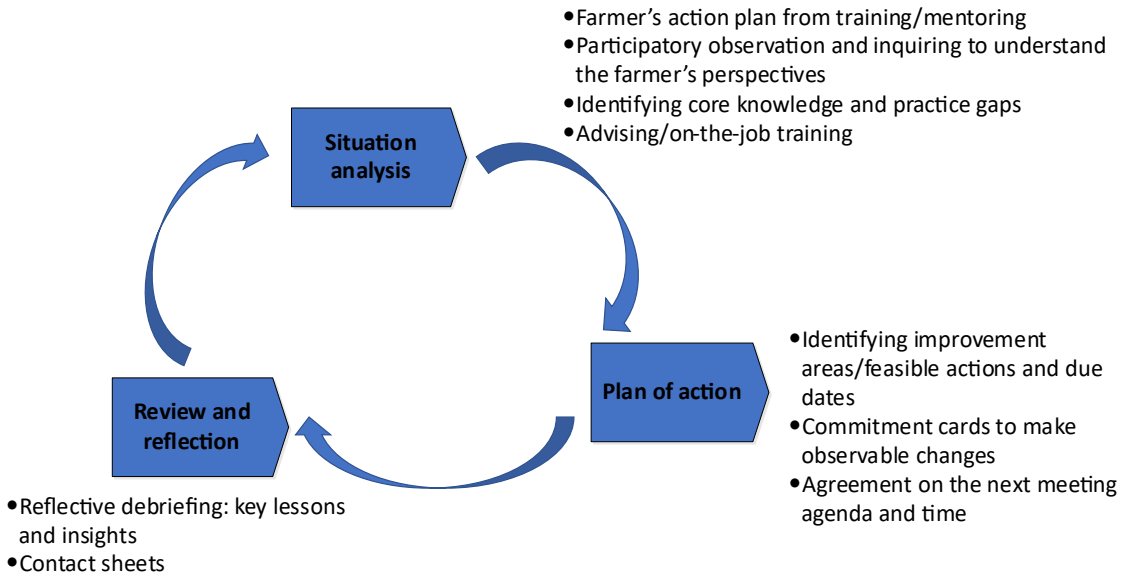

Table 1 provides an example contact sheet to document household based mentoring activities, outcomes and observations during the mentoring process.

Table 1: Contact sheet for mentoring dairy farmers

Date	Name of farmer	Mentoring duration	Issues discussed and conclusion reached	Observations and feedback	Next actions	Due date

The training and mentoring support will be delivered by partners. In addition to action plans by dairy farmers, the partners will conduct participatory dairy farm assessments and identify critical action points for improvement. During the mentoring process, the partners will take pictures of dairy farm conditions and improvements made during the mentoring support. Dairy farmers can also be encouraged to take pictures of their improved dairy management practices. This will help conduct photo monitoring of the dairy farm situation before and after the training and mentoring intervention. Following the training, a minimum of three rounds of mentoring and advisory support is recommended for dairy farmers. By the end of the training and mentoring process, in addition to the photo monitoring, the partners will hold discussions with the dairy farmers to capture their training and mentoring experience and capacity created to sustain the changes.

Methods and materials

- Interactive discussions
- Conversations/experience sharing among dairy farmers
- Storytelling
- Disease leaflets
- Pictures

Training duration

A complete grasp of the training content will take two days of training time. It will be delivered in community centres to create easy access to men and women dairy farmers, create a safe/comfortable learning environment for farmers and facilitate practical/peer learning using farm visits. It is recommended that the training be delivered in sequential half day sessions with about a month interval to allow farmers time for reflection and cater to farm and household activities. There will be three rounds of training in half day sessions delivered at a community centre. Sequential training sessions can be scheduled parallel to the dairy herd health interventions.

By the end of each training round, dairy farmers will make action points to apply the learning. Each successive training session will start off with a recap of the previous session to create logical progression between sessions/training rounds.

Learning measurement

Pre and post training assessments can be done using objective questions such as True or False or Correct or Wrong responses. The questions which cover both knowledge, attitude and practice aspects are based on the core messages of the training content. Additionally, behaviour observation checklists can be used to monitor knowledge retention, application and practice change over time (Figure 3). The photovoice method can also be used. Dairy farmers can be encouraged to take pictures of their existing situation before the training/interventions and what they think are their improvements. Photo monitoring can be a useful method to engage farmers in deeper/reflective discussions and capture changes.

Figure 3: Monitoring and evaluation of household based mentoring activities.

Observation parameters	Status on first visit	Status on second visit	Status on third visit	Status on last visit
• ..	• ..	• ..	• ..	• ..
• ..	• ..	• ..	• ..	• ..
• ..	• ..	• ..	• ..	• ..
• ..	• ..	• ..	• ..	• ..

Identify desirable and feasible dairy farm management practices that farmers are minimally expected to practice.

Develop a checklist with Correct or Wrong scoring to observe and monitor practice changes over time due to successive advisory/mentoring visits.

The dairy farm situation before and after the mentoring support will be compared to capture incremental changes due to the training and mentoring intervention.

Session 1. Fodder and forage production and use at the farm level

Nutrition plays important role to maintain the health and productivity of dairy cattle. In this session, dairy farmers will learn about production and use of improved forages to supplement crop residues and pasture roughages. They will learn about recommended management practices for selected improved forages and postharvest feed handling and using.

Intended learning outcomes

By the end of the session, dairy farmers will be able to:

- Identify alternative feed resourcing mechanisms.
- Produce improved fodders and forages on the farm for dairy cattle feeding.
- Conserve (hay and silage making) surplus forage for dry season dairy cattle feeding.
- Apply postharvest feed handling and using, including feed storage, processing and diet for improved efficiency and profit.
- Identify the roles of women and men in determining cattle feeding management.

Content

- Forage and fodder production strategies.
- Planting and managing improved forages.
- Production of selected improved forages and their recommended best practices.
- Division of family labour and role of gender in fodder/forage production.

Methods and materials

- Interactive discussion
- Storytelling/experience sharing
- Picture analysis

Duration: 2 hours

Learning activities

Activity 1. Opening, welcome and introductions

- Greet and welcome participants as they arrive to establish a friendly relationship.
- Place posters to set the context for the training.
- Observe local traditions and customs.
- What happens in the welcome and start can set the tone for the rest of the training process.

Activity 2. Icebreaker: setting the context

1. Engage dairy farmers in warm up exercises to introduce the training content and manage their expectations. Find out what they think are good dairy farming practices.
2. Encourage them to share stories/experiences about their dairy farm management practices.
3. Expand the discussion to include opportunities and challenges for good dairy management practices.
4. Summarize farmers' responses and highlight the main points.
5. Introduce that you will discuss improved feed and feeding management for dairy cattle.

Activity 3. Selected improved forage/fodder and their recommended practices

Explore feed challenges and how dairy farmers respond to those challenges.

Discussion questions

- How long will locally available feed resources last for the year?
- In which months of the year do you face critical feed shortages?
- How do you meet your animal feed needs?

Ask dairy farmers to identify which feed resources they mostly use. Probe: natural grazing, crop residues, forage crops, agro-industrial by-products.

Discuss opportunities and constraints to these feed resources. Expand the discussion on the relative advantages of growing improved forage crops.

Ask dairy farmers if they practice backyard fodder production. Encourage them to share their experiences. Allow time for dairy farmers to share and learn from one another's experiences.

Find out the gender division of labour and household decision-making regarding fodder and forage production. • How do you cultivate land with fodder and forage crops? • What are the best feed types that can grow in your area?
• Which sex (woman or man, girls or boys) do you think is responsible for forage production in your area? Why?
• What opportunities and constraints do women, men, boys and girls have regarding backyard forage/fodder production?

Discussion questions

- Who has labour constraints in improved forage production?
- Who has access to information and knowledge about forage and backyard fodder production?
- Who has access to seeds and planting materials?
- Who makes decisions on what improved forage and fodder species to plant?
- How do you cultivate land with improved forage crops?
- Where can you produce forages and fodders without affecting our cropping system?

Identify what they think is a good practice in their backyard fodder/forage production experience.

Ask them: What do you think is a good practice from your experience?

Using the pictures below, explore farmers' practices in improved forage and backyard fodder production.

Discussion questions

- What do you see in the picture?
- Does the picture reflect your situation?
- What opportunities and constraints do you face to practice what you see in the picture?
- What factors do you consider when selecting improved forages to grow?
- What factors influence forage yield?

Source: www.interaide.org/agri/eth/

Source: Ethiopia FEED II farmers boost production and improve livelihoods—ACDI/VOCA (acdivoca.org)

Summarize the discussion and highlight the main points.

Then, building on farmers' experiences, introduce new knowledge on backyard fodder/forage production. Discuss the following points, asking farmers for examples.

Check for understanding and ask farmers if they have any questions.

Key messages:

- Producing improved forages can help dairy farmers solve feed challenges and improve animal diets by supplementing natural pastures and crop residues.
- Backyard forage/fodder production involves the production of highly productive forages and browse planted within house compounds and around their boundaries.
- Advantages of improved forage production include:
  - Convenient for intensive feeding of dairy cattle.
  - Helps dairy farmers develop skills in the management of new forage species.
  - Provides seed banks to establish new plantings for other forage production strategies.
- Forage species suitable for backyard forage production include:
  - Woody leguminous browse: *Leucaena, Sesban*ia, pigeon pea and tree lucerne
  - Herbaceous forage legumes: alfalfa, vetch
  - Grasses: Rhodes grass, elephant grass, *panicum, Phalaris*, oats
- Backyard forage can be cut and carried to tethered or housed animals or cut and conserved for dry season use in mixes with crop residues and natural pasture hay or roughages.
- Produce forages without affecting the cropping system. Backyard forage plantations can be established in boundary hedges/shelter belts or forage blocks.

Activity 4. Planting and managing improved forages

Encourage brainstorming discussion to explore farmers' experiences in forage production.

Discussion questions

- How do you prepare land for forage production?
- What time is conducive for sowing improved forages?
- How do you plant forages? Do you usually broadcast or sow forage seeds in a row? Why?
- How do you maintain soil fertility?
- How do you control forage weeds? Do you practice hand weeding or apply herbicides? Why?
- How do you keep forage fields clean from weeds, pests and diseases?
- What forage diseases have you experienced? What do you think are the causes of forage diseases? How do forage diseases transmit? How can you prevent and control forage diseases?
- What forage pests do you commonly experience? How do you prevent and control forage pests?
- When do you harvest/cut forages?
- How do you conserve and use improved forages?

Summarize the discussion and highlight the main points.

Mention that agro-ecological conditions (climate, soil type and topography) determine the type of forage cultivated.

Source: Irrigating fodder crops to improve nutrition for animals and people in Ethiopia—CGIAR (credit: ILRI).

Key messages:

- Choose best fodder and forage production strategies based on your own situation.
- Improved forage crops need proper agronomic care for better yield and quality.
- Select the best forage and fodder species for your farming situation.
- Selected improved forage and fodder production, management and using involve the role of both family members.

Session 2. Optimizing and conserving available feed resources for dairy cows

Dairy farming demands the efficient use of available feed resources. In this session, dairy farmers will learn about feed conservation and improving the digestibility and nutritional quality of locally available feed resources (mainly crop residues that have poor nutrient content and digestibility) through practices such as physical, chemical and biological treatments.

In addition, to be profitable, dairy farmers need to store feed for dry season feeding and avoid unnecessary price increases. During the rains, there is more surplus pasture and fodder than at any other time of the year. Feed conservation is one of the components of feed management to ensure year round feed availability. Maximizing the conservation of feed during surplus production and during the right time needs the involvement of both women and men farmers.

Learning objectives

By the end of the session, dairy farmers will be able to:

- Apply feed conservation techniques to improve the quality of crop residues.
- Evaluate the quality of forages.
- Explain the importance of proper conservation and the role that bulk forages play in the diet.
- Appreciate gender issues in every and each feeding processing and feed management.

Content

- Improving the feeding value of crop residues
- Feed conservation

Methods and materials

- Interactive discussion
- Picture/video analysis
- Practical demonstration
- Experience sharing
- Examples/scenarios

Duration: 2 hours

Learning activities

Activity 1. Improving the feeding value of crop residues

Explore farmers' existing feed treatment practices.

Discussion questions:

- Do you think ruminants like crop residues? If yes, in which form (wet or dry) and why? If not, why?
- Which crop residue is more preferred by animals? Why?
- Do you exercise crop residue treatment to improve its nutritional quality and digestibility?
- What is the role of women to improve the quality of crop residues?

Summarize the discussion and highlight the main points.

Then, discuss the following points, asking farmers to share their experiences.

Key messages:

- How to improve the quality of poor quality crop residues using various treatment methods.
- Gender roles in crop residue treatment and nutritional quality improvement.
- How to feed treated crop residues.

Activity 2. Feed conservation and preservation

Explore farmers existing feed conservation practices. Encourage farmers to share their haymaking and feeding practices.

Discussion questions:

- When do you harvest fodder for haymaking? Why?
- For how long do you allow the harvested fodder to dry?
- Do you dry harvested fodder under shade?
- Do you mix legumes and grasses when making hay? Why?
- Do you practice hay baling? If yes, why and how?
- How and where do you store hay? Do you store hay in hay barns? Why?
- What are the causes of feed spoilage and losses?
- What is the role of women and men in feed conservation?
- How do you cope with drought and feed shortage seasons?

Summarize the discussion and highlight the main points.

Then, explore farmers' silage making practices.

Discussion questions:

- When do you make silage? What type of silos do you make?
- When do you harvest forages for silage making?
- Do you chop forages when making silages? If yes, why?
- Do you ensile forages? If yes, how and for how long?
- How do you feed dairy cows hay and silage?

Summarize the discussion and highlight the main points.

Then, communicate the key messages.

Key messages:

- Harvest the maximum amount of dry matter during surplus production and use it during scarce times without losing the nutritive value.
- Forage harvesting stage and conditions determine the quality of forage. Harvest fodder for haymaking when the crop has attained 50% flowering (protein and digestibility are at maximum).
- Prepare hay of good quality and optimum quantity.
- Make silage using simple inputs and materials.
- Participate both women and men in feed conservation.

Session 3. Feed ration balancing and production of simple concentrate at the farm level

Feed is the major cost of milk production. Feed rations must be properly balanced for dairy cattle to use feeds most efficiently. In this session, dairy farmers will learn about formulating balanced rations, home mixed concentrates and concentrate supplementation. They will know feed nutrients, their functions and sources so that they feed their dairy cattle a balanced diet.

Learning objectives

By the end of the session, dairy farmers will be able to:

- Explain what a balanced diet is.
- Explain the role of concentrates and how they should be supplemented.
- Make a home mixed concentrate for different types of dairy cows at home with reduced feed costs but increase productivity and income of the farmer.

Content

- Milking cows concentrate feed mixing options
- Developing an ideal balanced ration for milking cows

Methods and materials

- Interactive discussion
- Practical demonstration
- Picture/video analysis
- Examples/scenarios

Duration: 2 hours

Learning activities

Activity 1. Milking cows concentrate feed mixing options

Facilitate discussion to explore farmers' experiences with making home mixed concentrates.

Discussion questions:

- How do you choose the concentrate mix that is right for your dairy cows?
- What is the role of feeding concentrates?
- How do you know how much concentrate to feed and how to feed it?
- Do you make a home mixed concentrate? If yes, how?
- What is the role of women and men in making home mixed concentrates?

Summarize the discussion and highlight the main points.

Building on farmers' experiences, discuss the following points.

Ask farmers if they have any questions.

***Key messages**:*

- Concentrates are nutrient rich feeds that provide more nutrients (energy and/or protein) than an equivalent amount of bulk roughage.
- Failure to feed enough concentrate supplements, especially early in the lactation, is the main reason why many cows give much less milk than they are capable of, which reduces the profit the farmer could have made.
- Also, soon after calving cows cannot eat enough bulk to provide all the nutrients they need and supplements, including concentrates, are especially needed at this time.

Activity 2. Formulating an ideal balanced ration for milking cows

Find out farmers' experiences in making balanced rations for their milking cows.

Discussion questions:

- What proportion of concentrate and roughage do you use in making ration for your milking cows?
- What role do women and men play in formulating balanced rations for dairy cows?

Summarize the discussion and highlight the main points.

Then, building on farmers' experiences, discuss the following points.

Key messages:

- Good quality roughage should be available all the time, as much as possible.
- Freshly cut fodder, silage and hay are examples of good quality roughages.
- Dairy cows should be fed green fodder and other roughage feeds without limit (ad lib) before going for concentrate supplementation.
- Both male and female farmers make a balanced ration for their dairy cattle.

Session 4. Proper feeding of dairy cows for improved milk production and productivity

The feeding systems of dairy cows are managed by considering the dairy production system and availability of feeds at the farm. In general, the feeding system of dairy cows in rural areas is mainly free grazing whereas in urban dairy systems feeding of dairy cows dominates the supplementation of additional feeds. In rural areas, supplementation of animal feed resources is not practiced mainly due to a lack of awareness by male and female farmers, especially among women farmers.

Learning objectives

By the end of the session, dairy farmers will be able to:

- Identify factors that affect the amount of feed an animal will consume.
- Identify how to feed dairy cows for improved efficiency and profit.
- Explain how much concentrate to feed milking cows and dry cows and how to feed them.

Content

- Feeding concentrates to dairy cows
- Timely feeding of dairy cows

Methods and materials

- Interactive discussion
- Picture analysis
- Examples/scenarios

Duration: 2 hours

Activity 1. Feeding concentrates to dairy cows

Explore farmers' feed supplementation practices. Ask farmers to share their experiences in feeding dairy cows.

Discussion questions:

- How do you feed crossbred cows?
- What are the main feeds you feed to crossbred cows?
- What do women and men play in feeding dairy cows?

Summarize the discussion and highlight the main points.

Explain how to feed cows at various stages of lactation for profitable milk production, asking farmers to share their experiences.

Key messages:

- The quantity and quality of feed provided largely determines the dairy animal's health and productivity and the quality and safety of its milk.
- Understanding the nutrient requirement of dairy cattle at different growth and lactation stages is very essential to optimize cows feeding to increase milk yield and reduce costs.
- Concentrate mixtures (homemade/purchased) need to be fed with appropriate proportions of roughages to make them balanced in composition to meet the requirements of the type of animal they are intended for.

Activity 2. Timely feeding of dairy cows

Find out farmers' dairy cows feeding practices. Ask farmers to share their experiences.

Discussion questions:

- What is the quantity and quality of water supplied to dairy cows?
- What is your experience in using feed and watering troughs?
- What is the division of family labour in dairy cow feeding?

Summarize the discussion and highlight the main points.

Then, building on farmers' experiences, discuss the following points. Check for understanding and ask farmers if they have any questions.

Key messages:

- Immediately after calving, the cow has a low appetite and will not eat as much feed as the body may require but needs a lot of nutrients.
- Therefore, a good feeding schedule for a milking cow should:
  - Achieve a high peak yield early in lactation and a high total lactation yield.
  - Prevent too much weight loss.
  - Enable the cow to go on heat, become pregnant, and produce a healthy calf.
  - Make the best use of the feeds available.
  - Support milk production which both male and female smallholder farmers should equally understand.

Session 5. Feed and feeding record keeping

Record keeping is an important element of good dairy production. In this session, dairy farmers will discuss the importance of keeping feed and feeding records and the challenges and opportunities for keeping good records so that they make feed budgeting and planning decisions based on an analysis of feed and feeding records.

Learning objectives

By the end of the session, dairy farmers will be able to:

- Explain the importance of feed and feeding records as an integral part of good dairy farming practice.
- Keep good feed and feeding recording.
- Identify criteria for good record keeping.
- Make feed budgeting and planning decisions based on analysis of feed and feeding records.

Content

- Dairy production as a business-oriented farm activity
- Importance of keeping feed and feeding records
- Essential information for feed and feeding record keeping
- Criteria for good record keeping

Methods and materials

- Interactive discussion
- Experience sharing
- Feed and feeding record formats
- Examples/scenarios

Duration: 2 hours

Learning activities

Activity 1. Dairy farming as a business

Ask dairy farmers to pair up and discuss the following: Why are you a dairy farmer? Is it to produce milk for yourself and your family? Is it to generate cash? Or is it for both milk production and cash generation?

In the plenary, ask dairy farmers to share their responses.

Consolidate the discussion to emphasize that dairy farming practices have changed over the years. In the past, most dairy farmers produced milk equally for both food and cash. But today dairy farming is more specialized, where dairy farmers produce milk for the market. Explain that just as demands in life have changed over the years, so have dairy farming practices. Life requires more cash today than in the past. It is therefore important to begin to look at the dairy farm more as a business than as a source of food.

Ask dairy farmers to close their eyes and think of the most successful dairy farmer they know. Then, ask them to identify what makes this dairy farmer successful.

Write down their responses on flipchart paper and highlight the main points.

Activity 2. A dairy farm business cycle

Ask dairy farmers what it will require them to manage their dairy farm as a business. Brainstorm mindsets and skills that they will require to be business oriented in their dairy production activities.

Mention that a dairy farm business cycle is a useful way to develop a business orientation or thinking. Explain each component of the farm business cycle.

Step 1: Diagnosis

A study of the dairy business identifies problems that are limiting the farm's performance (finding out what is wrong) and opportunities that can improve performance (finding out what more can be done).

Step 2: Planning

Exploring options and making decisions about the steps to follow to achieve an objective or goal. It is about looking into the future.

Step 3: Implementing

Ensuring that the plan can be realized. This involves organizing, producing, monitoring, and marketing. Organizing involves arranging the resources and people needed to carry out the plan. Monitoring involves keeping track of progress being made on tasks and activities of the plan and checking to see if things are going as planned.

Step 4: Evaluating

Deciding whether the plan worked and whether the goals were achieved. It involves taking a longer look at what you have done and measuring it against your expectations.

Activity 3. Importance and essential information for feed and feeding record keeping

Ask the participants the following question: If you meet a dairy farmer who says they had a good milk yield last season, what question are you most likely to ask the farmer?

Give participants time to think about the question and write down their responses on flipchart paper.

In the plenary, ask dairy farmers to share their questions.

Explain that there are a lot of things to be asked but the answers depend on dairy farmers keeping records.

Discuss with the participants why it is important to keep dairy farm records. Encourage them to share their experience in using farm records.

Discussion questions:

1. What is the purpose of dairy farm records?
2. How can records help dairy farmers?
3. What can happen if records are not kept?

Mention that records are important to analyse the performance of the dairy farm business.

Ask the participants to identify types of records they think are needed for a dairy farm.

Write down their responses on flipchart paper. Then, focus the discussion on feed and feeding records. Ask dairy farmers to identify what information they would record regarding feed and feeding.

Write down their responses on flipchart paper and highlight the main points.

Key messages

- Record keeping is an important element of good dairy production. To run a successful and profitable dairy as a farm business, records of the identification of cattle, financial records, production records, health records and records of animal feeds should be kept.
- With no records, dairy farmers must depend on their memory (the gut feeling) while making decisions regarding dairy farm practice.
- Importance of keeping good dairy farm recordings:
    - Dairy farm records provide the basis for tracking and evaluating performance.
    - Provides up to date information for planning and decision-making at different levels and aspects of the dairy farm.
- Dairy farm records must be useful, simple and action oriented.
- Feed records give information about the type and quantity of feed production and feed purchase and price of feed.
- Feeding records give information about dairy cattle identification, feed type and quantity of feed intake.

Activity 4. Summary, action plan, and feedback

Recap main learning points and messages

- Ask farmers to mention what they have learned from the training.
- Write down their responses on a flipchart and highlight the main points.
- Summarize the main learning points and key messages to reinforce learning.

Action plan

- Ask farmers what they could do to improve their dairy feed and feeding management practices.
- Ask dairy farmers to mention what support they would need and from whom to improve their dairy feed and feeding management practices.
- Ask development partners what they could do to support farmers and monitor knowledge applications.

Feedback

- Ask farmers and development partners to provide feedback on the training content and process.

Ask development partners to describe how they could use the training approach and material to inform their training activities.

Further reading

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