Theme 1: Forage production and pasture management

PLANNING OF FODDER/FEED REQUIREMENTS FOR THE DRY SEASON

Level 2

Topic	Training & information Content
1.1	Planning of fodder/feed requirements for the dry season
1.2.1	Integrated soil fertility management I
1.2.2	Integrated soil fertility management II
1.3	Use of natural resources, compost making, farmyard manure, manure storage and use
1.4	Growing maize and sorghum for fodder and estimating time of harvest and yield
1.5	Brachiaria, Panicum, & Napier (cut and carry) grass management
1.6	Growing fodder trees and use of feed
1.7	Estimating of dry matter content, feeding value and yield of various fodder crops
1.8	Guidelines for Tropical pasture management and grazing management
1.9	Scaled mechanization of forage production and pasture management (harvesting practices)
1.10	Operating farm equipment and self-propelled tractors
1.11	Mechanization of feeding management
1.12	Economics of forage and pasture production

Planning of fodder/feed requirements for the dry season (Level 2)

1. You will learn about (learning objectives):

- ❑ How to plan and prepare for dry season feeding: Planning and preparing in wet season to grow, harvest and conserve abundant grass and crop residues for feeding in the dry season

  - Dry season the need for feed planning
  - Reasons for Dry season feeding
  - Causes of feed shortage in dry season
  - Dry season feeding principles
  - The solution to dry season: Plan ahead
  - Strategies for dry season

Planning of fodder/feed requirements for the dry season (Level 2)

2. Dry season: The need for feed planning

- Drought (prolonged dry season) leads to pasture and water stress

- Overstocking on the other hand, leads to decline in quantity and quality of pastures and the stock. Additionally, overstocking results in overgrazing

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2.1 Reasons for Dry season feeding

Remember: *Milk production depends on fodder quality*

- Dairy cows will only produce milk if they are given enough, good quality feed
- Also, calves and young stock can only gain weight if they are given balanced feed rations

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2.2 Causes of feed shortage in the dry season

- Lack of rainfall
- Poor quality of grasses and forage crops
- Little or no fodder. Feeds supplied does not meet the demand of the cow.

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3. Dry season feeding principles

- Maintain continuity in feeding
- Avoid sudden changes in the ration
- Feed at least twice daily at 12 hours interval
- Offer tasty (good palatable) ration.
- Add some molasses, maize bran or mineral salt. Also chaff, soak or grind the feed.
- Provide clean, fresh water throughout or at least three times a day

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4. The solution to dry season: Plan ahead

- Harvest excess grasses and legumes during the wet season
- Grow grasses and deep rooted legumes
- Plant sweet potatoes; the vines are protein boosters and can survive even during the dry season
- Preserve nutrients in the grass available at that time by:
  - Wilting, chopping and making silage
  - Or drying and storing as hay
  - Leaves of fodder trees can be dried as leaf meal

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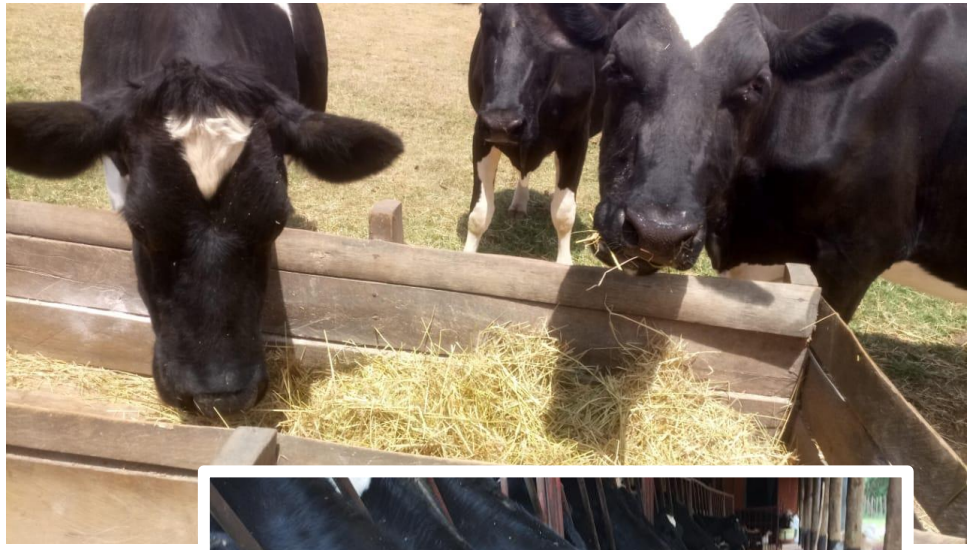
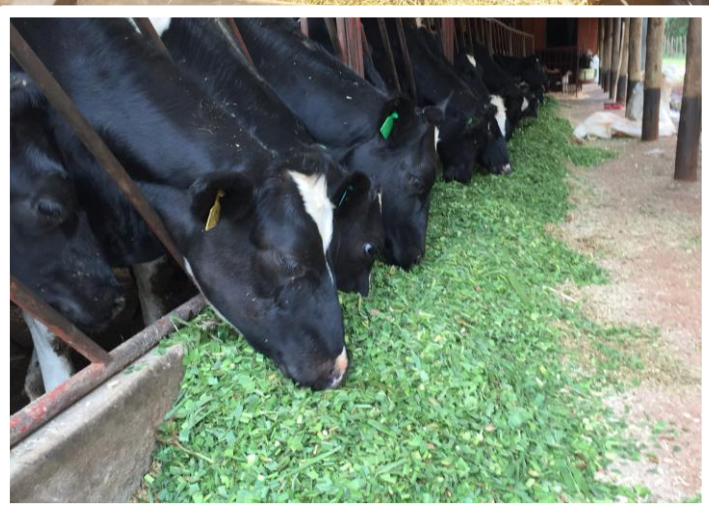
5. Strategies for the Dry season

1. “Tumbukiza”
2. Irrigation/watering crops
3. Planting drought resistant grasses and fodder crops
4. Planting fodder trees
5. Making silage
6. Making hay
7. Utilizing and storing crops residues
8. Making Urea Molasses Blocks (UMB)





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5.1 Tumbukiza

- This techniques is borrowed from smallholders to use their small parcels of land intensively
- They plant high value food crops such as bananas and coffee in pits. At the bottom there is a heavy dose of farm yard manure
- Used to plant and produce Napier grass.

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5.2 Irrigation/Watering crops

- Water the forage crops planted if the water is available, to maintain grass growth during the dry season

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5.3 Planting Drought resistant grasses and fodder crops

- Used for feeding the cattle during the dry season. They include among others;
    - Napier
    - Brachiaria
    - Desmodium
    - Lab lab
    - Fodder trees

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5.4 Conserving crop residues

- Crop residue can be collected and conserved well for use as fodder in the dry season
- Do not leave crop residue in the field where it is exposed to wet conditions
- Store in a dry place. Put up a good store to conserve crop residues.

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5.5 Silage making

- Green forage can be preserved by turning it into silage to overcome scarcity during dry season
- The process of silage making is based on fermentation. Leguminous fodder are more difficult to ensile
- To allow the bacteria to grow, air (oxygen) should be expelled through compaction.
- It is advisable to chop the green fodder
- Seal the silage pit with a plastic sheet and cover the sheet with soil
- Leave the silage closed for about 6 weeks before opening the silage pit to feed to the cows.

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5.5.1 Advantages of Silage making

- Silage is nutritious and tasty to cows
- Silage is very palatable, laxative, digestible and more nutritious than hay. It requires less floor area for storage than hay
- Enables good level of milk production in the dry season

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6. Hay making

- Hay making is a method to dry cut green fodder during sun and wind and prevent it from rotting and decomposing
- It is much better to cut the fodder fresh and preserve it.
- Well prepared hay remains leafy, clean, soft, palatable and nutritious.
- Store in a dry place to avoid loss of quality due to exposure to rain.

Baled grass hay

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6.2 Types of Hay

Legume hay

Non-legume hay

Mixed hay

Stover and straws

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7. Fodder trees

- Suitable fodder trees include;

  - Leuceana
  - Sesbania
  - Moringa
  - Gliricidia
  - Pigeon pea
  - Calliandra
  - Mulberry tree

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7.1 Why fodder trees?

- Fodder trees supplements high quality feed during dry season
- Several fodder trees like Calliandra, Sesbania and Leucaena are legumes. Their dry seed pods can be included as feed. Leaves and twigs originating from pigeon pea and mulberry can be used as well
- Fodder trees can be grown as a fence or hedge.

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8. Supplementation with Urea Molasses Blocks (UMB)

- Molasses Urea Mixtures are an ideal supplement to provide energy, protein and minerals to ruminants
- Only ruminants can utilize urea
- Urea is highly poisonous to other animals. It is also poisonous to ruminants if given in excessive amounts.

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8.1 Common ingredients for making Urea Molasses Blocks

- Molasses
- Urea
- Mineral Mixture / DCP / bone meal
- Salt
- Cement
- Wheat Bran / Maize bran

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8.2 Feeding Urea Molasses Blocks (UMB)

- Recommended quantities of urea molasses mixture to feed per cow per day:
  - Large cows (over 400 Kg) 2 kg
  - Small cows (under 400Kg) 1 kg

- If provided as a block, a mature dairy animal will consume (lick) up to 0.5 kg per day.

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