



Feeding Management of Buffalo: An Overview

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INTRODUCTION

Nutrition is the backbone of the production system. Feed is financially the single most important element of animal production system, irrespective of species. Feed costs can account for up to 70% of the total cost of production of an animal product. Nutritionally balanced feeding increases milk production of lactating animals. It also enhances growth rate and efficiency of meat-producing animals. Good nutrition also has the potential to increase reproductive efficiency, reflected in a higher cyclicity, lower age at first calving, lower inter-calving interval, higher productive life and higher profitability to farmers. Poor feeding decreases productivity and reproduction of the animal.

SEASONAL FODDER

Green Fodders for Kharif

- Legumes- Cowpea, Guar.
- Non-Legumes- Maize, Sorghum, Millet, Guinea grass, Napier grass, Sudan grass.
- Kharif fodders should be sown in March and thereafter at an interval of 15-20 days. This way, good quality green fodder becomes available for whole of season.
- Legumes and non-legumes may be sown together.

Fodders for Rabi Season

- Legumes- Berseem, Shaftal, Lucerne, Senji.
- Non-legumes- Rye grass, Oats, Barley.
- Fodders for Rabi season may be sown in October.

Concentrate Ration

- Carbohydrates source – Maize, barley, wheat, sorghum, oats, rice.

- Protein source- Oil seed cakes of groundnut, mustard, cotton seed, sunflower, soybean meal.
- By-products- Wheat bran, rice bran or polish.

POINTS TO BE REMEMBER

- Feeding must be based on the maintenance and production requirements of the animal.
- About 40-50 kg green fodder must be provided to meet the maintenance requirements of the 400 -500 kg animal.
- For low yielder i.e., buffalo producing 5 kg milk, there is no need of feeding concentrate, as the nutrient requirement can be met by feeding quality green fodder.
- Animals producing more than 5-7 kg milk should be fed 1 kg concentrate for every 2 kg in buffaloes.

DRY MATTER CALCULATION

For an animal of 400 kg body weight the dry matter requirement is calculated as mentioned below

Thumb rule: 2.5 kg of dry matter is required for every 100 kg body weight; $5 \times 4 = 10$ kg DM is required to satisfy the maintenance needs of a 400 kg animal. Dry matter comes from Roughage and concentrates. The ratio of Roughage and concentrates 60 and 40. 60% of 10 kg is 6 kg (roughages required) and 40% of 10 kg is 4 kg (concentrate required).

INGREDIENTS FOR CONCENTRATE RATION

For winter season (13 % DCP)	
Maize/ Sorghum	15 parts
Barley/ oats/ wheat	10 parts
Mustard cake	10 parts
De-oiled mustard cake	07 parts
Rice Polish	15 parts
De-oiled rice polish	30 parts
Wheat bran	05 parts
Molasses	05 parts
Mineral mixture	02 parts
Comman salt	01 parts
For summer season (16 % DCP)	
Maize/ Sorghum	13 parts
Barley/ oats/ wheat	10 parts
Mustard cake	10 parts
De-oiled mustard cake	17 parts
Sunflower cake	05 parts
Rice Polish	15 parts
De-oiled rice polish	17 parts
Wheat bran	05 parts
Molasses	05 parts
Mineral mixture	02 parts
Comman salt	01 parts

CONSERVATION OF GREEN FODDER

Forage, when preserved correctly can be a very high-quality feed for animals at all stages of production

Silage

- Fodder– Maize, bajra, chari
- Stage of Harvest – Milky
- Dry matte – 30 to 35%
- Chop to size – 1 to 3 cm
- Silo pits – Bunker/trench
- Size – 10mL x 3mW x 1.5Md
- Capacity – One cubic meter can accommodate 5-6 Q of green fodder
- Spread wheat straw on the floor of pits to prevent leachates
- Filling of silo – Load chopped fodder, Press the fodder with tractor, Cover with polythene sheet, seal and cover with soil/mud
- Tube silo – Press fodder in low density polyethylene (LDPE tube, 10 to 12 feet long, 60-80 thick, 6 feet diameter – 5q green fodder), Press it and tie air tight.
- Silage gets ready in 42 days
- Feed @ 20-30 kg / d / animal

Benefits of Silage

- Reduction of nutrient losses in silage is usually below 15%
- More economical use of plants with highly yield of green mass
- Better use of the land with 2-3 crops annually
- Ensiling reduces harmful nitrates & HCN accumulated in plants

Importance of Silage

- Round the year availability of quality green fodder.
- Anti-nutritional factors present in some fodders are destroyed.
- Improves the palatability of green fodder.
- Helps in rejuvenating of the soil by making the field free at a time or by sowing green manure in it.

Hay

- Reducing the moisture content of green fodder to 10% or lower
- Good quality hay can replace 50% of concentrate mixture
- Crops: Berseem, Lucerne, Cowpea, Guar, Senji
- Optimum stage of harvesting:
 - Berseem and Lucerne –Preflowering or flowering stage
 - Cowpea-60-70 days after sowing
 - Guar-100-100 days after sowing

- Senji-90-100 days after sowing
- Wilt fodders for 1-2 days in the field
 - Chaff 5-8cm and spread it in 5-6" layers on the concrete/clean floor for sun drying with 2-3 turnings/d
 - Hay gets ready in 4-5days
 - Colour of hay should be green

MINERAL DEFICIENCY IN DAIRY ANIMALS

Minerals, macro or micro are very essential for efficient production and reproduction of dairy animals. Because of intensive farming, deficiencies of these minerals are becoming more and more prevalent.

- In Copper deficiency, Main clinical signs are achromotrichia, vitiligo, chronic diarrhoea, anemia and temporary infertility. Single parenteral injection (S/C) of copper glycinate @ 1mg/kg b.wt. maintains copper status for 90 days.
- In Sub-clinical deficiency of iodine, single subcutaneous administration of 1 ml of iodized oil containing 375 mg of elemental iodine effectively treats hypothermia in calves. Three consecutive daily doses of 2 ml of iodized oil containing 375 mg/ml of elemental iodine are highly effective in the treatment of hyperthermia in cows.
- In Selenium toxicity, oral sulphates and arsenical preparations used as effective antidotes.
- In Manganese deficiency animals show signs of infertility, anoestrus and delayed estrus. Manganese sulphate @ 2 g/day for 15 days is effective in improving manganese status.