

Feeding Management of Goat



Dr. Pankaj Kumar Singh

Assistant Professor (Animal Nutrition)

Bihar Animal Sciences University, Patna, India-800014

E-mail: vepank@gmail.com; phone: +91-7909079625

INTRODUCTION

- In economic terms, feed cost accounts for about 70% of the total cost of livestock production.
- Small ruminants are the moving bank and means of investment for many marginal and small farmers.
- The feasibility of livestock enterprises is, therefore, a function of the type of feed and feeding system.
- It is estimated that up to a five-fold increase in tropical livestock productivity can be attained if there is optimal feed resource utilization.
- The annual growth rate rates of 3.5% for goats and 2.0% for sheep are higher than for buffaloes and cattle.

Goat Nutrition

■ Kid Nutrition

- Colostrum feeding
- milk feeding
- Creep ration
- Grower ration

3 days

upto 60 days (weaning)

15-90 days

90 days onward

■ Doe Nutrition

■ Buck Nutrition



Feeding schedule of Kid

- The kid should be allowed to suck its dam for the first three or four days so that they can get good amount of colostrum.
- Colostrum is given at the rate of 100 ml per kg live weight.

Age (Days)	Milk/colostrum (ml)	Creep Feed (g)	Green Forage (g)
1-3	350, 3 feeding (Colostrum)	-	-
4-14	350, 3 feeding	-	-
15-30	350, 3 feeding	A little	A little
31-60	400, 2 feeding	100-150	Free choice
61-90	200, 2 feeding	200-250	Free choice

Creep feeding

- This creep feed may be started from 15 days of age and up to 2-3 months of age
- 50 – 100 gm/animal/day.
- Contain 22 per cent protein.
- Antibiotics like oxytetracycline or chlortetracycline may be mixed at the rate of 15 to 25 mg/kg of feed.

Advantages:

- Encourages early consumption of solid food
- provides supplemental nutrients for rapid gain
- promotes early weaning





Creep ration

Ingredients (%)	%	%
Maize	40	60
Wheat Bran	17	7
GNC	20	20
Fish meal	-	10
Dal chunni	20	-
Mineral Mixture	2	2
Common Salt	1	1
Aurofac	150 g	150g

2. Feeding after three months to twelve months of age

- Grazing in the pasture for about 8 hours per day.
- Supplementation of concentrate mixture @ 100 – 200 g/animal/day with protein of 16-18 per cent.
- Dry fodder during night in summer months and during rainy days.





ation

CP, 60-65% TDN)

Ingredients (%)	%	%
Maize	50	30
Wheat Bran	30	30
GNC	10	-
Dal chunni	-	30
Molasses	7	7
Mineral Mixture	2	2
Common Salt	1	1
DCP (%), TDN (%)	15,60	15,65

Low quality roughage should be supplemented with grower ration @ 350-400 g daily

Doe Nutrition

Feed accordingly to stage of production

- Dry
- Breeding
- Early Gestation
- Late gestation
- Lactation



Feeding of Dry Goats

Period between weaning & breeding

- Lowest nutrient requirements
- Need dry matter 2% of body weight
- Good quality pasture should meet most requirement needs
- **6-8 hours** of grazing will take care of nutritional needs
- If the availability of pasture is good there is no need to supplement concentrate mixture.
- In poor grazing condition animals may be supplemented with concentrate **mixture @150 – 350 g** of concentrate / animal/day depending up on the age
- The DCP level of concentrate mixture should be 12 %.

Feeding of Breeding Goat

Flushing:

Feed breeding age goats extra ration (25% of maintenance) 2 - 3 weeks before breeding

- Increase ovulation rate
- Improves fertility
- Increases conception
- Increase Multiple births
- Dependent on quantity and quality of available forage and condition of does



Early Gestation..

- Gestation: 150 days
- First 100 days ~ Similar to dry feeding
- Very little fetal growth
- Take advantage of forage
- Monitor body condition score

Late Gestation..

- Last 50 days
- Most critical time – 70% of fetal growth
- Poor nutrition costs production
 - Low birth weights
 - Low mothering ability
 - Low milk production
 - Lack of enough energy in the feed can cause pregnancy toxaemia (Ketosis) in does
- Need 4 - 4.5% of body weight
- Utilize pasture & supplement feeding
 - Grazing 4-5 hours per day.
 - In addition to grazing, animals should be fed with concentrate mixture @
250 –350 g/animal/day.

Feeding lactating Doe

- Doe nutrition ~ key to early kid growth
- Lactation peaks at 2 - 4 weeks
- **Feed at 4 - 5% body weight**



The following rations may be recommended

- 6-8 hours grazing + 10 kg cultivated green fodder/day
- 6-8 hours grazing + 400 g of concentrate mixture/day
- 6-8 hours grazing + 800 g of good quality legume hay/day

Buck Nutrition



- Utilize pasture when available
- Feed intake 3-3.5% of body weight
- The common practice is allowing the bucks to graze 6-8 hours.
- Usually, it will meet the nutritional requirements of the buck.
- Where there are facilities for separate feeding of the buck, it may be given 500 g of a concentrate mixture

FEEDING HABITS

- ✓ Goats are natural browser preferring to eat leaves and twigs
- ✓ Feeds given must be clean and fresh, since goats eat nothing that is dirty or foul-smelling.
- ✓ They dislike wet, stale or trampled fodder. For this reason it is advisable to feed them in hay-racks or hang the feed in bundles from a peg in a wall or from a branch of a tree.
- ✓ Double-sided portable hay-racks are the most suitable and convenient for stall feeding.
- ✓ Goats will not mouldy or musty feed

Feeding systems of goats

1. Tethering
2. Extensive system of feeding
3. Semi-Intensive system of feeding
4. Intensive system of feeding

1. Tethering

- When grazing facilities are limited and one or two goats are to be kept then tethering is practiced.
- Animal is tied with a rope of 3-5 m length which permits the goats to browse over a limited area.
- Change the location whenever necessary so that goats may get sufficient grass to meet the requirement.
- Provide a temporary or portable shelter closeby within reach of animals so that it may turn to it in case of extreme weather.
- Tethering utilize grasses properly and is easy to rear goats at low resources.



2. Intensive system-zero grazing-system

Keeping goats in stalls and feeding them cultivated fodders (fresh and conserved) and concentrates to meet their requirement.

● Advantages:

- Goats get optimum nutrition
- Performance of goats is good (growth, milk yield)
- Doe mature at early age
- Parasitic infestation is low
- Reproductive performance is better
- Twinning percentage is high
- Milk yield is high
- Dressing percentage is high



● Disadvantages:

- Labour and capital cost is more
- Benefits of exercise are less
- Detection of heat by teaser is difficult



3. Extensive system/Range system of goat rearing

- Small farmers and landless labourers take their goats and sheep together walking long distances in search of food and water.
- Goats find opportunity to browse for about 8-9 hrs/day

- **Advantages:**

- Easy and convenient method
- Use of low resources
- Less expensive (Low Capital and labour expenses are low)
- Increases fertility of soil by way of manure and urine dropped by animals.
- Helps in control of weeds by animals

- **Limitations:**

- Natural potential of range lands is low due to extreme weather and less nutritious soil.
- Fluctuation in availability of feeds from region to region and season to season
- Poor nutritional availability to animals restricts productivity



Browsing





Browsing:



- Goats are natural browsers and have the unique ability to select plants when they are at their most nutritious state.
- Browse (leaves & twigs) and forbs (weeds) contain higher levels of protein & phosphorous during growing season than ordinary pasture.
 - Provide Weed control
- Some browse is unpalatable
 - High lignin, silica, essential oils, etc.
- Goats which browse have less problems with internal parasites

4. Semi intensive system

- Combination of intensive and extensive system.
- Grazing 4-6 hours and then kept in stalls where they offered roughage and concentrate mixture depending upon their availability.
- Performance of goats depend upon quality and quantity of feeds made available through limited browsing and supplementary feeds.
- Level of nutrition is better then goats find in extensive system.

Advantage of semi- intensive system

- Meeting the nutrient requirement both from grazing and stall feeding.
- Managing medium to large flock of 50 to 350 heads and above.
- Utilizing cultivated forage during lean period.
- Harvesting good crop of kids both for meat and milk.
- Making a profitable gain due to less labour input



Questions?