



Sheep and Goat Nutrition - A Practical Approach

Dr. C.Bandeswaran, M.V.Sc., Ph.D.,

Professor and Head
Department of Animal Nutrition
Madras Veterinary College
Chennai-600007



Sheep and Goat Nutrition- a Practical Approach



Sheep and Goat Nutrition- a Practical Approach

- 1. Integrated pasture management systems for sheep and goats**
- 2. Ration formulation for sheep and goats**
- 3. Feeding management of sheep in various life stages**
- 4. Feeding management of goats in different life stages**
- 5. Specialised feeding technique to produce designer meat / milk**

Integrated Pasture Management Systems for Sheep and Goats

Pasture management

1. Weed control
2. Grazing management
3. Fertility management



Pasture / shrubs is important for rearing of sheep and goats economically.

Pasture lands could be improved by protecting them from

- ▶ **biotic factors**
- ▶ **conserving good natural grasses**
- ▶ **choosing the best fodder trees and shrubs**
- ▶ **removing non-edible grasses, weeds and shrubs and**
- ▶ **re-seeding with nutritious and perennial grasses and legumes.**

Establishment of pastures

- ▶ **Pasture is the cheapest feed that can be grown on any farm for any kind of livestock.**
- ▶ **Labour requirement is much less for the maintenance of pastures.**
- ▶ **Soil erosion is reduced by pasturing.**
- ▶ **Requires some management practices to get the forage growing quickly and vigorously.**

Good management practices are just as important as proper establishment techniques.

Pasture establishment involves a considerable investment and returns by converted into milk or meat.

The following practices are involved in good pasture management

- a) Weed control**
- b) Grazing management**
- c) Fertility management**

a. Weed control

Weeds can reduce the productivity of the sown pastures particularly during the establishment year. The control weeds during the first year by either

- a) Hand weeding or**
- b) By use of herbicide in subsequent years,**
- c) Keep fields clean by slashing, hand pulling or mowing of weeds.**



b. Grazing management

During the first year of pasture establishment, grazing should not be allowed; The fodder must be harvested, conserved as hay, and fed during the lean period.

For maximum benefits use the pasture not later than the start of flowering stage.

Graze or cut at interval of 4 to 6 weeks leaving stubble height of 5 cm.

Graze animals when the grass is at the early flowering stage by moving animals from paddock to paddock.

Several different grazing management systems can be employed to ensure sufficient pasture in a stage suitable to graze at all times throughout the grazing season.

Continuous grazing

Putting animals out on a pasture and leaving them there for the majority of the season.

The number of animals the pasture can support is determined by the forage yield during the period of poorest pasture productivity.

b. Grazing management

Controlled grazing

When sheep stay in an area for a long time, but the size of the area is adjusted by moving fences.

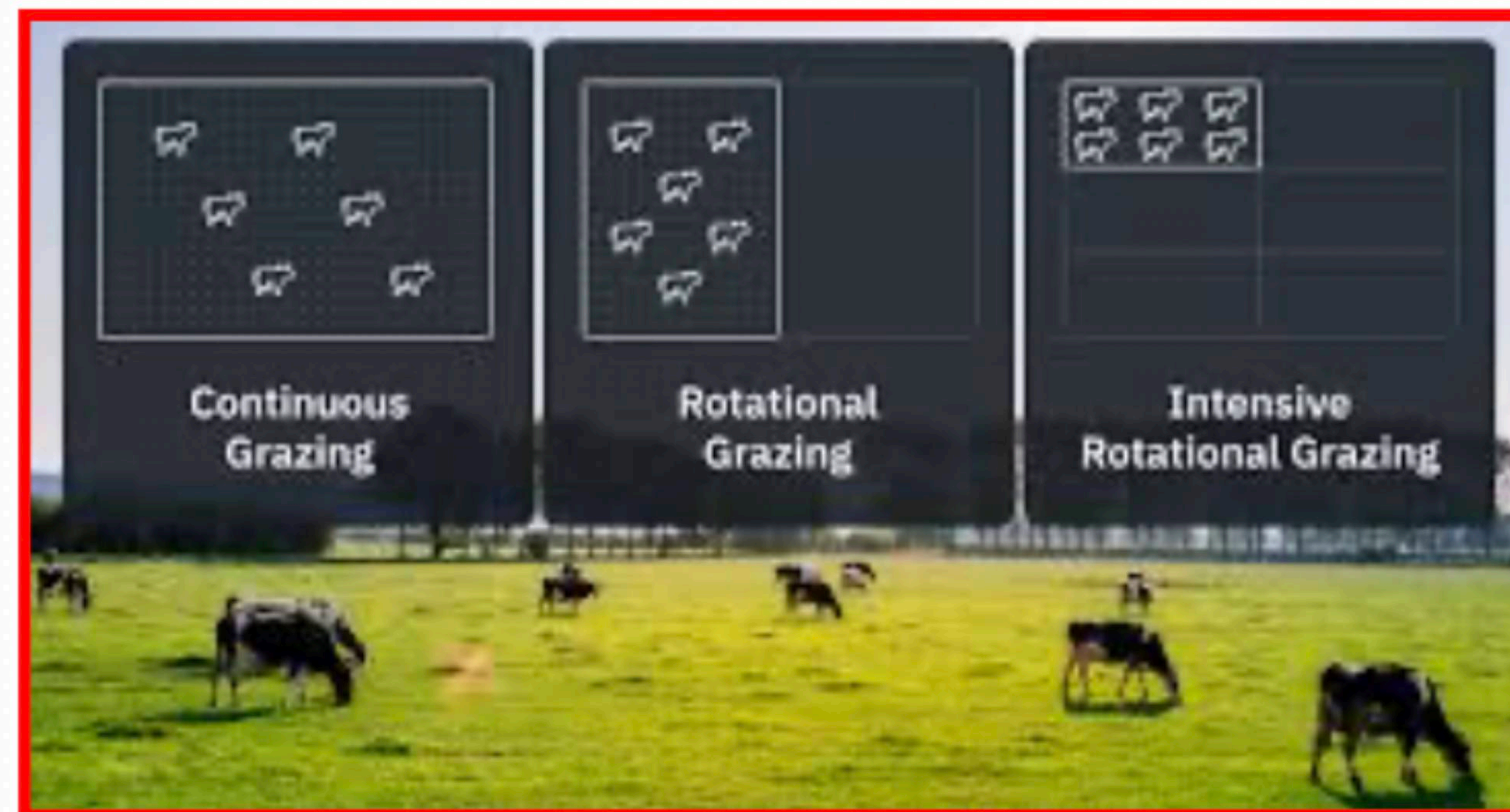
The grazing area can be increased when forage growth is slow or it can be decreased when forage growth is fast.

Rotational grazing

Dividing a pasture into several small paddocks using fencing.

Livestock are put into a paddock when the forage is 25 to 30 cm tall and removed when the pasture has been grazed down to 8 cm and paddocks are rested.

Rotational grazing system should be followed for better performance of animals.





Strip grazing

Animals are given just enough pasture to supply half to one day's requirements.

Forward grazing

Pasture is grazed by two groups of animals.

The first group to enter the pasture is those with higher nutritional needs (e.g. Lactating animals) and grazes the top of the plants.

The second group, with lower nutrient requirements (e.g. Dry animals), grazes what is left by the first group.

Mob grazing

Form of rotational grazing where large numbers of sheep graze the pasture until forage is grazed down evenly and closely.

This is normally used to clean up pastures with coarse, mature forage.



c. Fertility of land management

- Many areas show symptoms of deficiencies in the grass fields.
- Common deficiencies are nitrogen, phosphorous, potassium, copper and sulphate.
- Pastures do not look green and healthy during rainy seasons- soil sample to be analyzed
- Any deficiency can severely lower the production of pastures and cropland

Parasitic control in pasture

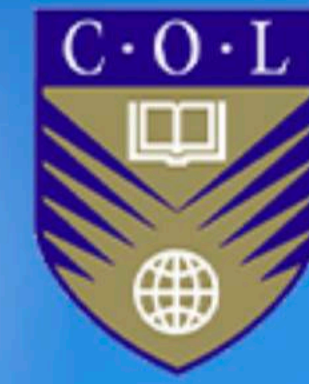
- ▶ Managing pastures in a way that will reduce the parasitic load
- ▶ Incorporate annual pastures into the grazing system and drag some implement in the stubble before planting.
- ▶ Incorporate into the grazing system plants containing high concentrations of tannins.
- ▶ Graze a contaminated pasture with another livestock species.
- ▶ Use control grazing practices to optimize pasture production and reduce parasitic load.
- ▶ By browsing, goats will not consume forage close to the ground where the parasite larvae are located — up to 5 inches from the ground level.
- ▶ In addition, many browse plants have the additional benefit of harbouring high tannin concentrations .
- ▶ Good nutrition allows a more effective immune response to fight gastrointestinal parasites.
- ▶ **Pasture related disease-Enterotoxemia**

Clostridium perfringens – young grass –more soluble CHO- multiplication – producing toxins.

Over eating disease-More CHO / milk / concentrates

Conclusions

- ▶ Pasture is the cheapest feed that can be grown on any farm for any kind of livestock.
- ▶ Sow the seed as early in the rainy season as possible.
- ▶ Seeds should not be buried deeply
- ▶ For establishing a mixed pasture of grass and legumes, the combination of Cenchrus and Stylosanthes sown in 1:1 ratio by broadcasting was found the best.
- ▶ Good management practices are just as important as proper establishment techniques.
- ▶ Rotational grazing system should be followed for better performance of animals.
- ▶ Daily grazing for 10-12 hours should be permitted to meet the dry matter requirements.
- ▶ Managing pastures in a way that will reduce the parasitic load.



Thank you