



General Management Key Considerations in Goat Production for Agripreneurship

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Introduction

Livestock is an integral part of India's agricultural economy and plays a multifaceted role in providing livelihood support to the rural population. Livestock sector apart from contributing to national economy (4.1 % to total GDP and 27.4% to the overall agricultural production) in general and to agricultural economy in particular, also provides employment generation opportunities (8% of the labour force), asset creation, coping mechanism against crop failure and social and financial security (NLP, 2013 and BAHS, 2019). Goats have been an integral component of India's livestock economy, hence development of goat production is considered to be a pathway for inclusive agricultural growth as out of 138 million operational holdings, the small and marginal holdings (below 2.00 ha) together constituted 85% and these holdings are the main custodian (> 75% of total goat population). There is significant growth in population of goats across the agro-climatic regions in India. India is endowed with huge biodiversity of goats (34 breeds) distributed in different agro-ecosystems throughout the country, which were developed by our wise ancestors as per the climatic conditions and then requirement of people of those particular regions. In pastoral societies in India, goats are kept as a source of additional income and as an insurance against income shocks of crop failure. In addition, the rural poor who cannot afford to maintain a cow or a buffalo find goat as the best alternative source of supplementary income and milk. In recent years, goat enterprise has also shown promise of its successful intensification and commercialization. They are not only an important source of income and employment for them, but also a vital source of animal protein for the family. Considering the viability of above cited facts & many advantages from goat keeping various management practices should followed by the stakeholders to improve the productivity of goats.

Housing

The main objective of housing is to confine the animals and protect them from predators and environmental extremes which would cause mortality and reduced growth, production and immune competence. A suitable house for goats must be secure, dry, well ventilated, free from parasites, draughts, clean, well lighted and facing east- west direction. The house should be able to provide protection from rain, cold, direct sunshine and winds. The inside temperature of house should remains between 15⁰c to 25⁰c. Sheds should be constructed on elevated area to prevent water stagnation. Mud floorings are suitable for most of parts of the country (except high rainfall area). Fodder trees around the shed provide good climate besides being source of feed. Where animals are taken for grazing during the day and



sheltered during night, the covered space will be enough. However, when animals are housed intensively, the pen and run system of housing is suitable. The optimum length and breadth of the shelter is 12 and 8 m, respectively, height at eaves and ridge as 2.5 and 3.5 m with overhang as 1 m and height of chain link for open space as 1.2 m.

Floor space requirements suggested for up to 3 m, 3-6 m, 6-12 m, adult, male/ pregnant/ lactating goats are 0.2-0.25 and 0.4-0.5; 0.50-0.75 and 1.0-1.5; 0.75-1.0 and 1.5-2.0; 1.5 and 3.0; 1.5-2.0 and 3.0-4.0 m², for covered and open area, respectively. The floor space requirements as per BIS standards are 1.8 m² for buck in groups, 3.2 m² for individual buck, 0.4 m² for kid in group, 0.8 m² for weaner in group, 0.9 m² for yearling, 1.0 m² for doe in group and 1.5 m² for doe with kid.

Handling of goats

Goats are seldom difficult to handle and frequently learn to come for feed and milking called. They dislike being handling by horns and ears and care should be taken not to disturb the nostrils. Tethering by the horns is unacceptable. Do not lift or drag goats by the fleece, tail, ears, horns or legs. Goat should be handled or restrained by placing one arm under the neck and the other around rump. The ideal handlings of goats are to hold them with neck or head.

Disbudding

The main objective of disbudding in goats is to safe handling of bucks and to prevent injuries to other animals. It should be practiced between 5-12 days of birth (4-5 days male kids and 7-10 female kids) by using caustic potash/ KoH stick.

Castration

Castration of male kids is essential to prevents indiscriminate breeding, rapid gain in body weight, make the male kids more docile and to improve the skin quality. All the male kids except those to be used for breeding purpose must be castrated by burdizzo's castrator at the age of 2-4 weeks.

Marking of goats

The main objective of marking of goats is the identification, to keep record and proper care and supervision of goats. Three methods for marking of goats- Ear tattooing, Ear tagging and Ear notching can be used. Among them ear tattooing is very common method of marking of goats. Marking should be carried within week after kidding.

Determining age of goats

Age of goats is judged from the incisors teeth which are found in lower jaw only. Wearing of incisors just started from 30-35 months and teeth reduced to stubs or broken above 84 months of age. The eruptions of permanent incisors are as follows (Table 1):

Pair of incisors	Age of kids in months
I st - central	12-14 months



II nd - middle	24-26 months
III rd -lateral	36-38 months
IV th -central	48-50 months

Care of doe after kidding:

Care of doe after kidding is more important for better health of doe and kids. Some points should be kept in mind at the time of care after kidding.

- Clean the place of kidding, disinfect and dispose off the placenta.
- Wash the hind quarters of goats with antiseptic solution.
- Provide a warm bran mash containing a small amount of oat meal, ginger, a pinch of salt, mineral mixture and jaggrey. These mass will provide instant energy to doe and help retained of placenta.
- Two days after kidding provide a ration of her choice with a concentrate containing 15% DCP and 60% TDN @ 400 per day.

Care of lactating doe:

To improve the productivity, it is essential to provide the good quality greens and 250g concentrate mixture besides grazing. It is also advised to stake holder to supplementation of area specific mineral mixture @10g/ day/ doe.

Care of breeding bucks:

Buck is “half the band”, therefore, select purebred buck of good breeding ability. They should be housed separately to have enough movements and exercise. A minimum of 2.4 x 1.2sqm areas should be provided to a buck in the house. An adult buck can be used for 25-30 does for breeding purpose. Cleanliness and feeding plenty of greens will help to reduce “goaty smell” Carry out grooming/ brushing every day to keep them clean, free from parasites and to make them docile. Average green fodder per buck per day should be provided @ 5-6 kg with 250-300g concentrate mixture per day besides grazing.

Health Care:

The occurrence of disease causes great loss to the goat farmers. Death of animals results in direct loss whereas morbid condition causes indirect loss by affecting the production adversely. Sudden change in the ration, poor nutrition, un-hygienic conditions in the animal sheds, contaminated feed and fodder are some of the important reasons causing morbidity and mortality in goats. Therefore, it is important to watch the animals closely for their health status on regular basis. Animal showing abnormal behaviour should be immediately separated out from the flock for detailed clinical examination. Knowledge of symptoms of various diseases will help in deciding appropriate line of treatment. The common diseases of goats on the basis of their etiology can be divided in to Viral, Bacterial and Parasitic diseases. The important viral diseases of goats are Pox, Contagious echthyma, Foot and Mouth Diseases (F.M.D.), Blue tongue, Peste-des-petits ruminants (P.P.R.) and Pneumonia.



Important bacterial diseases are Haemorrhagic Septicaemia (H.S.), Johne's disease, Enterotoxaemia (E.T.) and Brucellosis. The parasitic diseases are Coccidiosis, Haemonchosis, Ascariasis and Flukes. The non-specific diseases of goats include Scours, Navel ill and Constipation. It is better to have prevention against the ailments and diseases than to treat them. Goats must be vaccinated and dewormed from time to time. As a routine prophylactic measure follow vaccination and deworming schedule for goats as:

Table 2; Vaccination schedule for goats

Diseases	vaccine	month	dose& route
Enterotoxaemia	multi compound	February.	2.5ml s/c
FMD	polyvalent	June	2-3ml s/c
HS	Oil adjuvant	July	2.0 ml s/c
Pox	pox vaccine	September.	0.5 ml s/c
PPR	PPR vaccine	Any time	1.0 ml s/c

Table 3: Prophylactic schedule for Endo and Ecto-Parasitic infections

Infection	Time	Duration
Coccidiosis	2-6 months of age	6 day in continuations
Gastro-intestinal worms	After 5 months of age	Pre and post monsoon
Lice infestation	Any time	Pre and post monsoon
Tick infestation	Any time	During monsoon

The following tips are suggested for prevention and control of diseases:

- ✓ Keep the animal sheds, equipments and portable items clean and disinfected.
- ✓ Avoid overcrowding by providing optimum floor space.
- ✓ Provide adequate and proper ventilation to keep the sheds clean and comfortable.
- ✓ Do not allow stray dogs and other animals to enter the farm area.
- ✓ Provide free choice mineral bricks/ supplementation 10g/ day / animal.
- ✓ Practice recommended vaccination, dipping, drenching and routine screening schedule.
- ✓ Ensure prompt and proper disposal of bedding material and carcass.
- ✓ Use quarantine for the purchased animals.

Maintaining proper records:

Records are helpful in evaluation, selection and culling of goats, improvements of flocks, systematic breeding programme, testing of bucks, economic feeding, maintaining history pedigree register, income and expenses of farm etc. Therefore proper records should be maintained properly at the farms.



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