

Importance of Health Management in Changthangi (Pashmina) Goats

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SUMMARY

Healthy herd dependent on a healthy management which relies on cleanliness and hygiene. Hygiene of farm prevents the animals from common occurring disease like diarrhea, pneumonia and parasitic diseases. Due to unhygienic condition the young kids of 0-3 months are mostly affected including colibacillosis, coccidiosis and diarrhoe. Major route of infection is faeco-oral route. Frequent cleaning of floor dirt may prevent the spread of infection. Vaccination is the main strategy for prevention of disease. In Changthang animals should be vaccinated against goat/sheep pox, foot and mouth disease, contagious caprine pleuropneumonia, pestes des petites ruminants etc. Segregation and proper treatment of diseased animals in case of an outbreak is an important step for prevention and control of disease *e.g.* during an outbreak of goat/sheep pox, foot and mouth disease, contagious caprine pleuropneumonia or pestes des petites ruminants diseased animals should be separated from the normal ones.

INTRODUCTION

The goats are reared by common people for different purposes such as for meat, milk, fibre etc. Goats are reared by every class of a society Nipan *et al* 2016. Its an important resource for many marginal farmers which depend on them for their livelihood and a source of income (CPRC as cited by Mulabbi *et al* 2013). According to Lernfelt 2013 rearing of goats play an important role in the allevation of poverty in developing countries. Muinde *et al* 2015 reported in his study that poor health management is one of the main constraints in the production of animals. So for better production its essential to adopt proper scientific health management to prevent the goats from different contagious diseases and other deficiency diseases.

Common diseases of livestock in Changthang are neonatal diarrhoea [*Julab*], contagious caprine pleuropneumonia (CCPP) [*Loa zoma/Loa nath*], ectoparasitic infestation [*Shik*], deficiency diseases/malnutrition, neonatal hypothermia, sheep and goat pox [*Buru/phunsi*], foot and mouth disease (FMD) [*Khasagombo*], pestes des petites ruminants (PPR).

Common management points

Vaccination is the main strategy for prevention of disease. In Changthang animals should be vaccinated against goat/sheep pox, foot and mouth disease, contagious caprine pleuropneumonia, pestes des petites ruminants etc. Segregation and proper treatment of diseased animals in case of an outbreak is an important step for prevention and control of disease *e.g.* during an outbreak of goat/sheep pox, foot and mouth disease, contagious caprine pleuropneumonia or pestes des petites ruminants diseased animals should be separated from the normal ones. This will minimize risk of spreading the infection. Diseased animals should be properly treated so as to prevent loss and control diseases as immediately as possible. Treatment of goat/sheep pox, foot and mouth disease or pestes des petites ruminants involves use of broad spectrum antibiotic to prevent secondary bacterial infection.

Effective antibiotic noticed in Changthang include amoxicillin (amoxirum forte) @ 7-10 mg/kg bwt, ceftriaxone (intacef) @ 10mg/kg bwt, cefotaxim (taxim) @ 3-5mg/kg bwt I/M or I/V, penicillin (20,000 IU) and streptomycin (10 mg/kg bwt) (dicrysticin) @ 2-3 mg/kg bwt I/M or oxytetracycline @ 5-10 mg/kg bwt I/V or I/M or tylosin @ 10 mg/kg bwt I/M.

Use of anti-inflammatory agents to minimize inflammation, antipyretics to lower body temperature and analgesics to lower pain are also important in these diseases.

Meloxicam @ 0.2-0.5 mg/kg bwt, ketoprofen @ 3 mg/kg bwt, paracetamol @ 1-2 mg/kg bwt, flunixin meglumine @ 1-3 mg/kg bwt or phenylbutazone @ 2-3 mg/kg bwt have been found effective. Fluid therapy (@ 150 ml/kg bwt I/V for maintenance) to prevent dehydration and fluid loss is also important.

Feeding Management

- Balanced nutrition is essential for progressive growth.
- Sudden change in the feed should be avoided.

- Overfeeding should also be avoided.

Quarantining newly purchased animals

- For at least 21 days the newly purchased animals should not be mixed with the existing herd.
- Monitor for any signs of symptoms of disease.
- Vaccinate against different disease.

Harsh weather and health management-extreme winter.

- Extreme weather precipitate diseases.
- Transition weather like winter to spring and summer to autumn can expose animals at risk of contracting the disease.
- Winter to spring transition can lead to spread of disease like PPR.

Some of the specific treatments for the common diseases prevalent are as:

Neonatal Diarrhoea

- Broad spectrum antibiotic/ anthelmintic [(Ceflox TZ @ 10 mg/kg bwt P/O or Sulphonamides @ 100 mg/kg bwt P/O), (Fenbendazole @ 10 mg/kg; Nilzan @ 1ml/3kg P/O)]
- Fluid Therapy [(Intravenous fluids @ 150 ml/kg bwt for maintenance)].
- Anti-inflammatory and antipyretics [(Meloxicam @ 0.2-0.5 mg/kg bwt I/M or I/V)].
- Anti-allergic [(Pheniramine maleate @ 0.2-0.5 mg/kg bwt I/M)].
- Oral fluids/colostrum [(Colostrum @ 100-200 ml BID)]

Contagious Caprine Pleuropneumonia (CCPP)

- Antimycoplasmal antibiotic [(Tylosin @ 10 mg/kg bwt I/M or Oxytetracycline @ 5-10 mg/kg bwt I/V)]
- Anti-inflammatory and antipyretics [(Meloxicam @ 0.2-0.5 mg/kg bwt I/M or I/V)]
- Anti-allergic [(Pheniramine maleate @ 0.2-0.5 mg/kg bwt I/M)]
- Soft fluid diet

Vaccination [If available]

Miss use/improper use of tetracycline:

Injectable preparations are being used orally in neonates, predisposing to neonatal diarrhea. Prophylactic injection of tetracycline against CCPP is used without logic. Improper sites like subcutaneous, superficial intramuscular or oral are being applied which are painful and health deteriorating. Improper dose like use of overdose which causes pain, weakness, production loss or under dose which causes antibiotic resistance. Use of tetracycline in pregnant animals causes abortion or tooth decay in surviving neonates besides weakness and poor growth.

Foot and Mouth Disease

- Broad spectrum antibiotic [(Amoxicillin forte @ 7-10 mg/kg bwt I/M or I/V)]
- Fluid Therapy [(Intravenous fluids @ 150 ml/kg bwt for maintenance)]
- Anti-inflammatory and antipyretics [(Meloxicam @ 0.2-0.5 mg/kg bwt I/M or I/V)]
- Anti-allergic [(Pheniramine maleate @ 0.2-0.5 mg/kg bwt I/M)]
- Soft fluid diet
- Mouth/foot wash [MnO₄ = 2-4% for mouth wash, CuSO₄ = 4% for foot wash]
- Premises [Formalin 1 - 2 %, Sodium carbonate 4 %, Sodium hydroxide, Citric acid, Acetic acid]

Vaccination schedule for FMD

[Dosage: sheep and goats: 1 ml Vaccination regimen: Primary vaccination: 4 months of age. Booster: 9 months after primary vaccination. Revaccination: Every 12 months thereafter].

Sheep and Goat Pox

Locally apply ointment (glycerin)

KMnO₄ wash

- Broad spectrum antibiotic [(Amoxirum forte @ 7-10 mg/kg bwt I/M or I/V or Intacef @ 10mg/kg bwt; Cefotaxim @ 3- 5mg/kg bwt)]
- Anti-inflammatory and antipyretics [(Meloxicam @ 0.2-0.5 mg/kg bwt I/M or I/V)]
- Anti-allergic [(Pheniramine maleate @ 0.2-0.5 mg/kg bwt I/M)]
- Soft fluid diet
- Vaccination [(1 ml I/M on neck at 3-4 month age)]

Ectoparasitic Infestation

- Broad spectrum antiparasitic drugs [(Ivermectin @ 0.02- 0.2mg/Kg bwt S/C or Cypermethrin/deltamethrin dipping @ 3ml/L water)]
- Anti-inflammatory and antipyretics [(Meloxicam @ 0.2-0.5 mg/kg bwt I/M or I/V)]
- Anti-allergic [(Cetirizine @ 0.2-0.5 mg/kg bwt p/o)]
- Mineral mixture [(10 g p/o young; 15 g p/o adult sheep/goat)].

Deficiency disease/malnutrition

The common deficiency diseases in Changthangi goats are mineral deficiency (Ca, Cu, Zn) and vitamin A deficiency besides the general malnutrition due to the fodder scarcity especially in winter or after winter when the green grasses are lacking.

- Feed Small animal @ 100-200 g p/o daily
- Mineral mixture Small animal @ 15 g p/o daily
- Periodic vitamin A injections or supplementation [Dose @ 50-150 IU/kg, maximum dietary dose @ 20000 IU/kg].

Proper nutrient supplementation especially during the period of fodder scarcity and harsh climate (winter) helps in preventing production loss and mortality among livestock. This will also keep animals healthy and thus improving immune status thereby protecting from occurrence of diseases as weak and lethargic animals are more prone to diseases. Usually feed 200-300 g for small animals and mineral mixture 10-15 g for small animals should be provided daily during the fodder scarcity and during the most critical phases of production (gestation). Proper housing management is important during the harsh climate like winter and during the initial phases of life after parturition as neonates are prone to environmental stress. Lack of housing predisposes to cold, predation and insufficient housing predisposes to conditions like overcrowding, breathing problems, nutrient deficiency, cannibalism, diseases and stress. Generally animals are housed in *rebos* which are not covered on top except for *rebos* of neonates which are fully covered having no provision for air and light making them uncomfortable for the animals. Better housing sheds for animals can help in boosting production and preventing diseases. Avoiding overcrowding helps in preventing production loss, diseases and mortality. Keeping 5-10 neonates (kids and lambs) in small *rebos* is the usual practice in Changthang.

This predisposes to death due to suffocation, nutritional deficiency, spread of diseases and ectoparasites. Neonatal care and feeding is essential for economical livestock farming. In Changthang overnight born kids and lambs are left in *rebos* after morning feeding of colostrum/milk and their dams are sent for grazing. Thus they did not get the proper amount of colostrum/milk hence making them weak and susceptible to diseases and predisposing to different diseases. This is one of the main reasons for neonatal diarrhoea. Kids and lambs should be provided adequate amount of colostrum/milk especially during the first few weeks of life as it is the most critical phase of development of immunity and other body systems. Providing 100-200 ml of colostrum or 250-500 ml of milk daily to kids and lambs will suffice their requirement. Hygienic rearing is important for prevention of diseases both in animals and humans. It becomes essential when the animals are housed during the inclement weather or winter especially in close proximity with humans as chances of dirtiness increase as increase the occurrence of disease. When the animals are grazed in highland pastures chances of dirtiness are less as are the chances of occurrence of disease.

Vaccination Schedule For Pashmina Goats in Ladakh

S.No	Disease	Vaccination Schedule		Expected month for Vaccination	Trade name and Presentation of company	Dose and Route
		Primary	Regular vaccination			
1.	Enterotoxaemia	At the age of 1 month if doe is vaccinated/at the age of 1 week if doe is unvaccinated. Boster dose is given after 15 days of primary vaccination.	Pregnant does 1 month before lambing/Annually before rainy seasons	March	Multicomponent ET vaccine or Raksha ET vaccine (100ml) (Intervet/Indian immunologicals)	1 ml or 2ml S/C
2.	Goat pox	A the age of 3 month and above	Annually	March/April	Goat pox vaccine (IVRI)	1ml S/C
3.	FMD	3 and ½ months and above	Twice in year	March and September	Raksha FMD/Raksha OVC (30ml &30ml) Indian Immunologicals	1ml S/C or 1m I/M
4.	PPR	4 month and above	Every 3 years interval	April	Raksha PPR (100 dose) Indian Immunologicals	1ml S/C

For each vaccination a minimum of 15-21 days interval should be followed.

CONCLUSION

Pashmina goat rearing can be successful only when the health aspects are taken care. Major activities that should be applied are proper scientific housing management to protect animals from harsh winter climate, vaccination, deworming, hygiene management, clean drinking water, balanced ration and farm biosecurity for a better health management.

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