

Care and Management of Goats and Sheep



Selecting the Right Goat or Sheep

Performance of your herd is dependent on selecting the right animal. The characteristics you look for in the goats or sheep to start a business or replenish the stock depend on the type of herd you have or will have.

These are some general guidelines for selection.

1. Select animals from reputable producers.
2. Select good milkers.
3. Avoid buying kids/lambs since they take long to be productive and may die before maturity.
4. Purchase pregnant and lactating does.
5. Do not purchase old does since their productive life might be short
6. Purchase herds free from diseases.
7. Check overall appearance. The coat should be glossy and the skin free of scabs and sores.
8. Avoid a fat does as she may be a poor milk producer.
9. Check for sound hooves and teeth.
10. Animal should be in good health.

The following must also be taken into consideration:

Feature	Description
Skin	Pliable with a smooth hair coat
Feet	Sound with sickle hocks
Mouth	All front teeth should be intact
Eyes	Bright and alert
Ears	Characteristic with the breed
Colour	Characteristic with the breed
Testicles	Firm and well balanced
Mammary Development	Good with no supernumerary teats. It should be pendulous or extending below the hocks

Head	Balanced in length, width, depth with broad muzzle ensuring ability to consume large amounts of forage.
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Diet/Feeding

Goats and sheep demand balanced diets to maintain their health, weight, vigour and appetite. These ruminants are particular eaters refusing soiled foods or that eaten by other animals. A combination of forages (hay and browse), grain and grain by-products (corn, wheat, sorghum and even sunflower and cotton seed), and nutritional supplements (minerals, salt) is recommended in the feeding program.



Grain: It is best to use quality balanced, non-medicated feed. Make sure to read the labels on packages.

Integrated supplements: Goats/Sheep should have access to mineral, salt and bicarbonate of soda supplements at all times. Brewer's yeast and kelp meal are additional supplements to consider offering to goat tribes. Minerals should be offered in clean and dry feeders. Mineral supplements are not necessary, however, if the bag feed already contains the nutrients.

Forages: Hay and browse (leafy plants, weeds, and woody plants) are common forages for goats/sheep. Legume hays such as alfalfa, clover or peanut may be offered.

There are five (5) major groups of nutrients in food needed by goats.

Water: Goats/Sheep need water for normal body functions such as digestion, transportation of nutrients, joint lubrication, temperature control and for the production of milk. The average daily intake of water for goats and sheep is 2 to 5 gallons. It is important to allow the animals to access water freely from feeder.

Energy: This is used for maintenance and for fueling the process of growth and production of offspring and milk. Carbohydrates and fats are the usual source of energy and are derived from starch in plant cells.

Protein: This is essential for muscle building and the growth of foetus. Proteins are also constituents of milk, hair, skin and hoofs. Proteins are derived from both animal sources (fish meal) and plant sources (brewer's grain, legumes and forages).

Minerals: These are essential for the proper functioning of the body including bones and teeth, and for the production and reproduction. Deficiency may result in stunted growth, loss of appetite, loss of hair and reduced fertility.

Vitamins: These take part in various body chemical reactions that are essential for the well being of the animal. They are required in small quantities. A well balanced diet usually supplies enough for the animals' needs.

Avoid making abrupt changes to the diets of goats. Their temperament requires gradual introduction of new feeds, change in feed times and feed amounts. In addition, if a goat/sheep displays changes in its behaviour and feeding habit it may be a sign that medical attention is required. Make an assessment for yourself and contact a veterinarian if professional help is needed.

Dry Matter Requirements

The requirements of meat goats are less than those of dairy goats. On average, the dry matter requirement for adult meat goats is 1.9–3.8% of body weight, while for adult dairy goats and dual-purpose goats the requirement is 5–7% of body weight.

Larger goat breeds need more nutrients to maintain the body and, therefore, their total requirements are higher than small breeds.

In sheep, inadequate dry matter intake may result in wool picking (defleecing).

Concentrate Feedings

Concentrates are good quick sources of energy, particularly since some portions bypass the reticulorumen and get digested quickly in the small intestine. Concentrate, however, could have serious implications for goat production. Goats can suffer and die from acid poisoning as a result of feeding large quantities of concentrate. Urinary calculi (stoppage of water) in bucks is another consequence of high concentrate diets.

The recommended forage-to-concentrate ratio is 70:30.

Metabolic Disorders

Urinary Calculi

Common Name: Water Belly

Description: This is a urinary-tract disease in goats that prevents urination and breeding in males. It kills goats quickly.

Symptoms: Tail twitching in males, restlessness, anxiety, and "hunched-up" body posture as the goat strains to urinate.

Treatment: Ammonium Chloride

Mix one (1) teaspoon Ammonium chloride in 20 cc water per 75 lbs bodyweight every 12 hours for 2 days and orally drench or stomach tube it into the goat; then 1/2 tsp AC per 75 lbs bodyweight every 12 hours for the next 3 days; then 1/2 tsp once a day for 3 days, then 1/4 tsp daily as a preventative. Dosages are based upon 75 lb live weights.

Acidosis

Common Name: Grain overload

Description: A carbohydrate fermentation disorder of the rumen caused by the misfeeding of highly fermentable carbohydrates or underfeeding of effective fiber.

Symptoms: Diarrhoea, dehydration, immobility

Treatment: Baking Soda
Drench with a solution of 2-3 ounces of sodium bicarbonate (baking soda). Contact a veterinarian immediately.

Pregnancy Toxemia

Common Name: Grain overload

Description: A metabolic disease of does in late pregnancy. Most of the nutrition is going to the kids.

Symptoms: Lethargy, loss of appetite, limping, swelling of feet, lying around (not wanting to get up), sweet-smelling (ketotic) breath.

Treatment: 1. Baking Soda
Drench with a solution of sodium bicarbonate.
2. Energy Foods such as alfalfa, and corn

Housing of Goats/Sheep

Goats should have a secure pen to house them for three main reasons:

- Protection during the rainy season
- Protection from dogs
- Protection from thieves



Protection from drafts and moisture is important since goats can develop hypothermia if drenched to the skin from rainfall.

The pen can be constructed from indigenous materials e.g. wood, bamboo, thatch and slabs from saw mills. Pens made of solid posts and good fencing materials will decrease the likelihood of goats wandering off.

There should be separate compartments for bucks, weaner bucks, pregnant does and non-pregnant or open does and there should also be a kidding area and a sick bay, with a communal area for others.

The pen should be built on a north to south axis to allow for full utilization of sunlight, better sterilization and warming of buildings.

It should be well ventilated allowing for a good cross flow of air and on a well-drained site. The roof can be gabled or flat and sloping away from the exercise yard with a minimum height of two meters (6 ft), from the bottom of the slope. A flat roof is cheaper to build than a gabled roof. Floors may be of solid earth, marl, concrete or elevated and slatted but always is dried and raised above ground level.

Concrete and slatted floors are more expensive and should have a 1% slope for easy drainage.

The following space recommendations can be used as a guideline:

- 7sq.ft. Per Dry Doe
- 4.5sq.ft. Per Weaner

- 10sq.ft. Per Doe and Kid

Feeding Facilities

Feeding troughs can be made out of wood and metal to feed grains and a wood-rack built to feed grass. Feeding troughs should be built so that animals cannot get into them.

Water Facilities

Water troughs should be built away from feed troughs and in the shade. They can be built from metal, plastic drums cut in half longitudinally or from concrete design with a float to control the flow of water. Animals should not be able to get into the water trough. Empty and properly clean the water trough/bucket regularly.

Provide fresh water on a daily basis. Automatic waterers may also be used.

Care

Barns should be cleaned every 2 weeks, as goats can produce up to 10 pounds of waste daily. The presence of faeces and urine promotes the spread of flies associated with illnesses such as pinkeye. Regular cleaning will ensure that goats have a dry and healthy space to sleep in.

Remove stale feed from feed troughs and thoroughly clean troughs before supplying fresh feed.

Breeding

Breeding Strategies

There are three (3) basic breeding strategies, each having different results. Goat producers must select the strategy that best suited them. The options involve selecting animals for reproduction based on:

Line breeding:

Line breeding mating related animals (either distantly related or closely related). Line breeding (or inbreeding) results in genetic uniformity of offspring, in terms of appearance and performance. On the downside, line breeding leads to loss of vitality and reproductive performance.

Crossbreeding:

It involves the mating of animals of two different breeds.

Line crossing:

This is the crossing of different lines within a breed.

Selection for Breeding

Does selected should be well grown with long legs, a slender neck (short and thick for meat type) and well-sprung ribs. The udder should be firmly attached to the body and should be pendulous. There should be two (2) well-placed teats of good size for milking.

Preparation for Breeding

Two to three weeks prior to breeding, the doe should be given a little extra feed such as fresh pasture or grain to allow weight gain. In addition to flushing (giving extra feed), breeding does may be moved to a lush nutritious pasture approximately 4 weeks prior to the introduction of the bucks. (This is due to the finicky nature of the animal requiring gradual changes in its diet). Extra feed portions also increase the number of ovulations, as well as improve a doe's chance of producing twins or triplets.

Trim hooves of the does. Expose doe to buck's scent only when the appropriate time has been identified.

Bucks should be placed far away from the breeding doe herd before their introduction. This will reduce the likelihood of the doe herd coming into heat prematurely. It is best that a doe come into heat 7–10 days after the buck has been introduced. It is also a good idea to have bucks mate with cull does before meeting the breeding does. This will ensure that low-quality sperm is flushed from the bucks' system. Isolate bucks from each other, to avoid riding.

Increase bucks concentrate intake gradually to 1 –2 kg/day starting 3 weeks before breeding season and throughout.

Does and bucks should be dewormed and deloused three weeks prior to flushing. This should increase reproductive success.

When to Breed

1. Goats are sexually mature at 4-5 months of age; however, this is not a good time to breed. Young goats may produce kids with growth retardation. Additionally, kids may be weak and more likely to die.
2. Do not breed until at least two (2) heat cycles have passed (7-8 months).
3. Breed only when they have attained 70-80% of their mature body weight (60-90 lbs.).

Heat Detection in does

For success of ones reproductive programme, breeder must be aware of the season and signs when does are in heat (estrus). It is estimated that does come into heat – or are ready to mate – every 18-22 days during the breeding season. Heat lasts for 24 to 36 hours.



There are several signs to look for in identifying does in heat, including:

- Bleating, as if in pain
- Constant tail wagging from side to side
- Slightly swollen and reddened vulva
- Area around the tail may look wet and dirty because of vaginal discharge
- Decreased appetite
- Increased frequency of urination
- Does become aggressive and may mount each other, as if they were bucks.
- Doe will show interest in a nearby buck.

Your signals may become crossed if bucks are introduced too early to breeding does. Bucks emit scents that cause the does to come in heat more quickly, so it is best to keep them separated prior to breeding.

Procedure for Hand Mating

This system should be used in intensive or semi-intensive systems where does are mated to specific bucks to maintain lines. The procedure is as follows:

- Does should be inspected at least twice per day, morning and evening, for signs of heat.
- Put teaser buck on leash and walk through all doe groups to be bred.
- Does in standing heat will usually approach the restricted buck. Buck will show interest and will attempt to mount. Note identification of does and remove teaser buck.
- Separate does in heat along with designated buck as per breeding programme and allow buck to serve, preferably twice.

- Record date and service information immediately on prescribed record sheet. This can be used to forecast kidding date and also to identify returns to heat.

Procedure for Pen Mating System

Pen mating system is used primarily when there is a large batch of does to one buck. The buck to doe ratio is one buck to 30 – 40 does. The procedure is as follows:

- Monitor the condition of the buck daily.
- The buck should be fitted with a marking harness to identify matings.
- The buck should be left with the does for two heat periods, i.e. 42 days.
- At the end of 42 days remove the buck for 14 days.
- Repeat above for further 42 days, using another buck if necessary.

Birthing

Preparation of doe for kidding

- Steaming up – six to eight weeks prior to kidding, increase concentrate gradually to 1kg/day. This encourages proper development of the foetus during the most demanding period for growth.
- Prepare well ventilated and bedded area for doe.
- Have experienced herdsman on spot on day of expected kidding.

Signs of pregnancy

The first sign is that the doe does not return to heat three weeks after breeding. Twelve weeks after breeding, the abdomen enlarges noticeably. Pregnancy can be detected as early as sixty days after breeding with the aid of ultrasound prognosticators.

Signs of birth:

- Swollen vulva
- Does appear hollow in flank and either side of tail
- Restlessness
- Isolates self from herd
- Produce low bleat as if she is talking
- Udder increase in size and may drip constantly
- Frequent urination
- Turns head towards the tail
- Lies down and stands up repeatedly
- The water bag ruptures and the kid is produced
- Placenta to be expelled 12 hours after birth

Care of Newborns

1. After birth, let the mother lick the kid(s) to develop good relationship with their off spring. Licking kids is also necessary to remove mucous that can hinder breathing, causing death. Wipe nostril and mouth dry only if kid still fails to breathe properly.
2. Dip navel in 3-7% iodine daily for 4-5 days. This is essential in preventing infections.
3. Weigh kids.
4. Ensure that kids get colostrums within the first 15-30 minutes of birth. If the kid is too weak to suckle by themselves, feed colostrums from a nipple bottle.



5. Doe and kid should be placed in covered pen, which is well bedded, dry and well ventilated.
6. Record birth of kid in field diary and certificate of birth book as soon as possible.
7. Identify kid by applying tattoo in ear as soon as kid is strong enough.
8. Introduce grain concentrate (16% protein), fodder and minerals 1-2 weeks after birth. These should be palatable and easily digested, however.
9. Kids can be dehorned (disbudded) at 14 days of age or as soon as the horn buds appear.
10. Vaccinate kids against blackleg and other Clostridial diseases at 6 weeks followed by a booster shot at 12 weeks of age
11. At 7 weeks of age administer a coccidiostat to prevent coccidiosis. Repeat at 9 weeks.
12. Do first deworming at 8 weeks, primarily for tapeworms.
13. Wean kids at 12 weeks of age.
14. Separate male and female kids at weaning.
15. Observe for lice infestation and dip or spray if necessary.
16. Weigh at monthly intervals from birth to market (8 – 10 months) for males and to breeding (10 – 12 months) for females.

Health Care

Goat producers should take all the relevant steps to maintain healthy herds. The health care programme should include hygiene and disease preventative measures.

<i>Health Care Procedures</i>	<i>Description</i>
<i>Shearing</i>	Goats should be routinely shorn to remove severely matted or soiled fleeces. Treatment for external parasites should be administered after shearing, since less chemical is needed.
<i>Clipping</i>	This is necessary during lactation to keep hair and other pollutants out of the milk.
<i>Disbudding (Dehorning) & De-scenting</i>	While horns provide protection from predators, they cause injury to other goats. Kids can be dehorned (disbudded) at 14 days of age or as soon as the horn buds appear.
<i>Castration</i>	Male kids may be castrated in different ways: elastrator rings (10 days), Burdizzo clamps (before 2 months), or cutting (before 2 months).
<i>Hoof Trimming</i>	Trimming is rarely needed, but confined goats may need their hoofs trimmed every few months. Avoid trimming too close as this can cause bleeding or tenderness.
<i>Identification</i>	A variety of means of identification are used to tell how well the goats are growing and what treatment each got has received. Identification is also necessary for entry into pedigree files. Whatever the form of marker (tattoo, ear tagging), care must be taken not to introduce diseases to the animals.
<i>Parasite Control</i>	Management systems for parasite control include regular cleaning of pens, deworming, administering of coccidiostat and population control. Diarrhea, death and decrease in milk production are

Vaccination

indicators for parasitism in the herd.

Each goat producer should have a vaccine schedule, stating when initial and booster immunization should be given. Vaccination is necessary to protect the herd against Overeating Disease (Enterotoxemia), Tetanus, abortions (vibriosis, chlamydia), sore mouth, and caseous lymphadenitis (CLA).