

Goat Pastures Considerations



Goats are very active foragers, able to cover a wide area in search of scarce plant materials. Their small mouth, narrow muzzle and split upper lips enable them to pick small leaves, flowers, fruits and other plant parts, thus choosing only the most nutritious available feed. As natural browsers, given the opportunity, goats will select over 60 percent of their daily diet from brush and woody perennials (multiflora rose, saplings, small deciduous trees, black locust, briars, brambles, sumac, privet, honeysuckle), and broadleaf plants (pigweed, dock, horseweed, plantain, lambsquarter) over herbaceous species such as fescue, bluegrass, orchardgrass, crabgrass or bermudagrass. The ability to utilize browse species, which often have thorns and an upright growth habit with small leaves tucked among woody stems, is a unique characteristic of the goat, compared to heavier, less agile ruminants.



Goats have been observed to stand on their hind legs and stretch up to browse tree leaves or throw their bodies against saplings to bring the tops within reach. Goats are more likely than other domesticated ruminant animals to select plant parts containing tannins. Goats even sometimes climb into trees or shrubs to consume the desired forage. In spite of their grazing preferences, goats can be grazed on pasture alone. The feeding strategy of goats appears to be to select grasses when the protein content and digestibility are high, but to switch to browse when the latter overall nutritive value may be higher. This ability is best utilized under conditions where there is a broad range in the digestibility of the available feeds. It is an advantage to an animal that is able to select highly digestible parts and reject those materials which are low in quality.

In a pasture, goats tend to graze from the top to the bottom of plants and do not like to graze near the soil surface. Therefore, goats will more uniformly graze a canopy than other ruminants will. This behavior results in even grazing and favors a first grazer-last grazer system. This system might consist of using a goat herd

as the first group and cattle as the last group. It is most appropriate with lactating does or growing kids whose nutrient requirements are high.

Goats have been observed to:

- select young grass over clover;
- prefer browsing over grazing pastures, and eat more browse than other domestic ruminants;
- eat a wider range of plant species than sheep or cattle;
- prefer foraging on rough and steep land over flat, smooth land;
- graze along fence lines before grazing the center of a pasture;
- graze the top of pasture canopy fairly uniformly before grazing close to the soil level;

- travel longer distances in search of preferred forage than other domestic ruminants.

Grazing time can be influenced by several factors, including the season of the year, the temperature and humidity, the topography of the land, the nature of the plant canopy, pasture availability and social interaction between animals. The season of the year, with changes in day length and intensity of sunlight, cause goats to graze in different patterns. At mean temperatures below 50 F, goats spend very little time grazing at night. At mean temperatures above 50 F, some grazing time will occur at night; and when mean temperatures exceed 77 F, one or more grazing periods will occur at night. During hot weather, frequent movement of goats during the day will increase intake. The topography and size of the pasture also will have an effect on grazing time, as will forage availability and ease of forage removal. Goats will not graze sites within the pasture where urination and defecation have taken place, and this can increase the time it takes to graze. Goats are generally sociable, so if one animal gets up to graze, others will follow.

Control grazing and strip grazing



The basic principle of control grazing is to allow goats to graze for a limited time, leaving a leafy stubble, and then to move them to another pasture, a paddock or sub-paddock. Smaller paddocks are more uniformly grazed and surplus paddocks can be harvested for hay. The pasture forage plants, with some leaves still attached, can then use the energy from the sun through photosynthesis to grow back without using up all of their root reserves. Even brush will need a recovery time if it is being used as forage for goats. Without this rest period, the goats can kill the brush through continuous browsing.

Under control grazing, legumes and native grasses may reappear in the pasture, and producers often report that the pasture plant community becomes more diverse. Control grazing can be used to improve the pasture, extend the grazing season, and enable the producer to provide a higher quality forage at a lower cost with fewer purchased inputs. Control grazing can also be useful in reducing internal parasite problems, if meat goat producers are careful to move the goats to a new pasture before the forage plants are grazed too short, that is, less than about 4 inches. In addition, the use of the FAMACHA system to selectively deworm goats will overcome the problems of pasture infestations by resistant intestinal nematodes, due to increased refugia. Refugia is the proportion of nematodes that provide a pool of susceptible genes and dilute dewormer-resistant genes in that population.

Strip grazing can be easily superimposed on control grazing in large paddocks by placing movable electric fences ahead and behind the goats, giving them sufficient forage for two to three days. Strip grazing is very effective and results in high pasture utilization because otherwise goats will not graze soiled forage well. Strip grazing results in high average daily gain, increased gain per acre, and rapid improvement of body condition when pasture is vegetative and excellent quality, especially during cool weather. Strip grazing is very effective with stockpiled fescue during late fall and early winter. The practice is not recommended when pasture is of low quality because of reduced goat selectivity.

Parasites and pastures

One of the major components of an effective parasite control program is reducing the number of parasites to which goats are exposed. One way to accomplish this is to manage pastures in a way that will reduce parasite load. There are several ways to do this:

1. Take a hay crop from the pasture area. This can be incorporated into a dose-and-move program in which goats are grazed on one pasture in the early grazing season and then moved to another goat pasture that was used for a first-cutting of hay. Moving animals to another grazing area before the end of the grazing season will probably provide the best parasite control.

2. Incorporate annual pastures into the grazing system . Dragging some implement through the stubble before planting will enhance plant establishment.
3. Included in the grazing system plants containing high concentrations of condensed tannins. A good example is sericea lespedeza. which is a perennial legume which can grow well even on less fertile soils. Alternatively, incorporate fodder shrubs that contain high concentrations of tannins such as black locust.
4. Graze goats with another species such as cattle or horses. Sheep are an exception since they share the same worms as goats. The goat parasite larvae cannot survive in the gastrointestinal tract of another herbivore species. Another approach is to use a first-grazer, second-grazer system with two livestock species whereby the first-grazers remove the taller growth which is less likely to contain parasite larvae.
5. Use controlled or rotation grazing practices to optimize pasture utilization. This is a more productive practice than continuous grazing on the same pasture. Goats will return to the same areas where their favorite plants are growing. Those areas will become heavily infected by gastrointestinal parasite larvae and eggs.
6. In extensive situations with an over-abundance of pasture land, allow the goats to have plenty of forage, thus giving them the opportunity to select the most nutritious parts of plants. In such situations, goats will not graze close to the ground and will not ingest many gastrointestinal parasite larvae.
7. Put goats in a browse area, or woodlot, when hot, humid environmental conditions favor the rapid life cycle of gastrointestinal parasites. By browsing, goats will not consume forage close to the ground where the parasite larvae are located -- 5-inches or less from the ground level. In addition, many browse plants have the additional benefit of harboring high tannin concentrations. Tannins have been shown to reduce fecal egg counts and possible gastrointestinal parasite larvae numbers.
8. Always put goats with the highest nutritional requirements on the best quality pastures. Good nutrition allows a more effective immune response to fight gastrointestinal parasites.
9. Do not graze a pasture for a period of time. Unfortunately, it takes a year or an entire grazing season for the worm eggs and larvae to die off if the pasture is just left empty. This is usually impractical for most producers.