

DETERMINING HAY AND FORAGE TO FEED TO YOUR GOATS

There is no single perfect forage or hay for goats. As long as it is digestible, a wide variety of plants and hays will be consumed. Goats are very selective, "picky" eaters, choosing only those hays and forages which will give them the nutrients they need. The quality of hay, for example, varies greatly, based on how mature it was when it was cut and baled. If fiber levels are high, digestibility will be low, even if the protein level is high. Very coarse hay or forage is not readily digestible by goats, so they prefer not to eat them.

Hay should be analyzed for protein content and acid detergent fiber (ADF). ADF is a laboratory analysis that measures the cellulose and lignin levels in plants, and lignin is not digestible, so an acid detergent fiber measure that is low - below 35% - is preferable for goats. Grass hays with low ADF must be cut early, while the leaves are immature and the stems are very small. As a general rule, stemmier hays have less nutritional value than leafy hays.

Some people associate alfalfa hay with urinary calculi in bucks. While alfalfa is high in its calcium to phosphorus ratio (from 3:1 to 5:1), this should not prove troublesome; a calcium-to-phosphorus ratio of at least 2:1 is desirable. Inadequate intake of water, along with overfeeding of grain, particularly regarding male goats, are the likely culprits in causing urinary calculi. Many areas have poor quality or brackish water. Goats are choosy and will decline to drink foul water. Water that is high in calcium and magnesium salts may also increase the probability of urinary calculi.

Alfalfa is very high in protein relative to other hays. Providing goats with a combination of alfalfa and grass hays along with the proper grain mix will bring the protein level up and insure that there is adequate roughage in the diet to stimulate the digestive action of the goat's rumen. When feeding higher grain levels in late pregnancy, be sure that ample hay or forage is available to prevent digestive problems such as acidosis and pregnancy toxemia.

Rapid increases in nutritional intake can also cause another serious problem . . . laminitis . . . and founder can occur. Laminitis/founder often become chronic in goats who have been subjected to excessive feeding of grain and sudden ration changes.

Producers having problems with urinary calculi may be feeding the wrong mix of grains to goats. Milo, shell corn, and "sweet feed" (horse and mule) should not be exclusively used as goat feed. Ammonium chloride should always be added to feed to guard against urinary calculi. Producers insistent on feeding large quantities of grain must provide a loose mineral containing a 2:1 ratio of calcium to phosphorus on a free-choice basis. The key is that ample protein, hay, forage, and minerals must be fed to goats in a BALANCED ratio.

Because they are more digestible, browse and weeds are preferred by goats over grasses. Access to adequate amounts of browse and weeds ("forbs") is complicated by the fact that most are annuals, which grow from seed each year, live for a short time, flower, and die. Maintaining year-around grazing with annuals is not likely to occur in most climates. During droughts, there won't be enough rain to germinate the seeds, thereby reducing or eliminating this source of nutrition for goats.

Forbs that grow back each year and live for many years are called perennials. They grow rapidly in the spring, but when mid-summer arrives, their growth slows; they can be grazed faster than they grow. Indeed, over-grazing can occur and actually cause them to disappear.

Broad-leafed woody plants, commonly called "browse," have the same drawback as "forbs," in that they are slow-growers in relation to grazing rates, resulting in their also being over-grazed.

Grasses are the third link in this chain, but the key to grasses maintaining good nutritional levels is to graze them when they are young, succulent, and very digestible. Their growing

season is longer than browse or forbs. Here again, it is easy to over-graze and lose this nutritional resource.

Supplement with a grain mix of at least 16% protein when does are pregnant or are nursing kids and when climatic conditions are stressed. The goat's total diet should be 14-16% protein. Keep in mind that a 16% protein supplement fed along with an 8% protein forage will reduce the overall protein level below the percentage needed. Using alfalfa as a primary roughage should keep the protein level up.

Begin increasing the nutritional level of a pregnant doe's diet about six weeks before kidding, so that by the time kidding occurs, she is at the level of nutrition that she needs for lactation. When lactation starts, the protein requirement of a goat more than doubles. Just feeding a grain to help with energy is not enough. The milk molecule is built around protein. Short an animal on protein and milk production declines, regardless of energy intake. Alfalfa is about the only hay with enough protein to meet the needs of a lactating doe. However, the producer must carefully and slowly increase the protein intake of a pregnant doe, gradually adding appropriate feed to her diet as her pregnancy progresses. A sudden change in type or amount of feed can lead to ruminal acidosis, pregnancy toxemia, laminitis, and a host of other problems.

Nutrient and mineral requirements vary from location to location. For example, some areas are deficient in particular minerals. Learn to adapt your feeding program to fit the locale where you are raising goats and the particular breed which you are raising. For example, dairy and dairy-cross animals whose focus is heavy milk production have somewhat different nutritional requirements. This writer includes Boer goats in the latter category.

A perfect diet for goats includes browse, forage, and grazing grasses, along with the necessary minerals designed for your area . Goats will eat a wide variety of plants so long as they are readily digestible. Maintaining a sound program of rotational grazing/browsing/foraging and taking care of your plants will provide a well-balanced diet for your goats. An added benefit will be reduced expenses and more money in your pocket.

(Much of the information provided to the writer for this article was furnished by Kent Mills, who is a nutritionist for a feed company, and editor of "The Forage Sampler, The Ruminant Nutrition Newsletter for Stockmen.")

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