

# Nutrition *of* Does (Nannies)

Meat goats are expected to raise kids, in contrast to dairy goats, which are expected to produce milk for nine to ten months at high levels of up to one gallon per day. Dairy goats are offered forage and concentrates to enhance milk production, but meat goats are expected to wean kids with minimal concentrates. For many operations, the cost of concentrates may be greater than the value of the greater growth rate achieved by the kids. However, if adequate forage is not available to the doe, grain supplementation may be necessary. The amount of nutrients required by the doe is related to amount of milk she produces, which converts to kid growth.

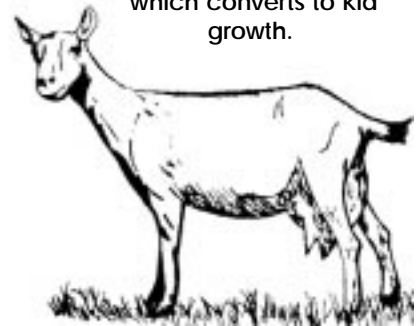
During the production cycle of the doe, nutrient requirements change (see Appendix). The dry period, or non-lactating period, after the kids are weaned should be considered at the beginning of the next breeding and lactation cycle. Generally, kids are weaned before the doe is bred. During the dry period, the doe is recovering nutrients used when nursing the kids. Nutrient demand is the lowest, and the concern is to keep the goat alive and healthy. Before breeding, the doe should be flushed if she is thin; it also may benefit does that are in average body condition. Flushing is the practice of increasing feed access to the does which will increase ovulation rate. Flushing should begin 30 days prior to the introduction of the bucks to the herd and continue for 30 days after bucks have

started breeding. If goats have been on pasture or brush, flushing can be done by turning goats on a lush pasture or by feeding grain. Increase availability of grain gradually to avoid enterotoxemia. Corn can be used to flush at a rate of one-half to three-quarter pound per day per doe in most meat goat operations.

In early gestation or the first 100 days of pregnancy, the fetus(es) grow slowly, and the doe can be fed a maintenance diet or turned back on pasture/brush. In late gestation or the last 50 days of pregnancy, fetal growth explodes. Seventy percent of the initial weight of the kid is gained during the last 50 days of gestation. Requirements of protein and energy increase drastically in this last third of gestation. Weather must be taken into account in any goat operation. If the seasonal reproductive cycle has been followed, late gestation occurs during January to March when the weather is cold. A supplemental feeding program with light flushing may be required to promote overall health of the doe and survival of the fetus(es). After kidding, the lactating doe is in the most nutritionally demanding period, often more than double the dry period. If does are properly fed, peak milk production will occur at two to four weeks after kidding and then will start to decline rapidly.

When the available forage is insufficient in protein, energy or minerals to support desirable levels of goat performance, proper supplements should be

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offered in adequate quantities. Always consider the cost-benefit of supplementation. Most owners provide minerals to their goats throughout the year. Typically, these minerals are in the form of trace mineralized (loose or block) salt. Individual sources of calcium and/or phosphorus (offered separately or in combination with salt) or commercial mineral mixtures are available. Fescue and bermuda that are growing well have a good ratio of calcium and phosphorus, but most winter annuals are lower in calcium and may require supplementation with limestone. For legumes, such as alfalfa and clover, phosphorus content of forages is usually much lower than calcium content, and supplementation with phosphorus is usually economical. Goats (with the possible exception of Angora) apparently have a much higher tolerance to copper than sheep, so typical cattle mineral mixes are usually safe for goats.

In grazing situations in which the plants are too low in protein or in which forage quantity is limited, additional protein must be offered to maintain acceptable goat performance. Protein supplementation may take many forms, and cost per unit of protein may vary widely. Compare protein costs, presence of other dietary components, palatability, feeding facilities required, labor cost/convenience and likelihood of achieving uniform intake per animal when supplementing protein in the diet. Feeding a hay of high protein level is frequently the most economical solution. In other cases, a pound or so of 20 percent crude protein (CP) cubes, .5 lb of 40 percent CP supplement or 0.5-1.0 lb of whole cottonseed may be economically sound and nutritionally adequate. Protein blocks may be used for convenience but may be costly. Some owners have observed that grazing small grain pastures for only one to two hours per day will provide adequate supplemental protein and energy to their dry pastures

or non-legume, lower quality hays. The continuous availability of forage, even poor quality hay, is important during such protein supplementation; it allows the animals to obtain energy and more efficiently use the protein.

When existing pastures and/or browse are unacceptably low in energy, you may offer good quality hays to maintain performance of the goats; 0.5 to 1.0 lb of shelled corn or cottonseed also may be used as a supplement. Without adequate energy, conception rates, milk production and kid growth rates will be reduced. If hay or pasture quality and availability is limited, protein blocks and additional hay free choice may provide adequate nutrition to the goats.

Goats can be grazed with beef cattle. Generally, up to eight goats eat about the same amount of feed as one beef cow (Table 4). Because of the complementary grazing habits, the differential preferences for various plants and the wide variation in vegetation within

most pastures, one to two goats can be grazed with one beef cow without adversely affecting the feed supply of the beef herd. The selective grazing habits of goats in combination with cattle eventually produce pastures which are more productive, of higher quality and less contaminated with weeds as a result of the mixed grazing of the goats and cattle.

When planning grazing and supplementation practices, always remember that a meat goat enterprise generates cash income from the sale of surplus kids and cull adults as well as non-cash benefits from brush control and pasture improvement – perhaps \$40 to \$70 per breeding female per year. Adequate year-round grazing with only mineral supplementation is normally the best option for feeding as other options increase costs but may be economical. However, the economics of hay or grain supplementation must be considered when pasture is limited and the most economical method of feeding utilized.

Table 4. Estimated stocking ratings or feed needs for goats, sheep and cattle on pasture

Pasture Type	Goats	Cow
	Head/Acre	
Good quality pasture system	6 - 8	1
Good quality brush-browse system	9 - 11	1
	Head/Acre	
Wheat/alfalfa system	10 - 12	1.5
Alfalfa pasture, Oklahoma	12 - 15	1.9