

# Goats and Weed Control

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With costs on the rise, many landowners are seeking less expensive alternatives to mechanical or chemical weed control in pastures. One natural method to achieve this goal is to stock goats to consume unwanted brush and weeds. For the typical cattle producer, however, managing goats requires a very different approach to meet their nutritional needs and to control their movement.

## Goat Diets and Nutritional Requirements

Goats are browsers and typically prefer brush and forbs (broad-leafed, non-grassy plants), often referred to as weeds. According to Ken Gee, Noble Foundation wildlife researcher, goats will choose forbs or woody plants 85 percent of the time and grasses only 13 percent of the time. Because of this preference for weeds over grasses, goats can serve as a complement to a beef cattle or horse operation. Be aware, however, that young goats learn their eating habits from their mothers, and some does have a preference for grass. If you want to purchase a brush-eating goat, make sure it was raised by a brush-eating mother.

As browsers, goats like to nibble a little bit from several different plants. This allows them to get the nutrients they need while avoiding poisoning from toxic plants. Since they like variety, you should not expect goats to clean up a single unwanted plant specie. Land managers should also take care not to overstock goats. Overstocking can lead to overgrazing of preferred weeds and brush and can shift the herd's grazing to grasses, creating competition with cattle. A livestock or pasture specialist can help to determine proper stocking rates.

Like grasses, most forbs and woody plants are dormant during the winter and may die out during hot, dry summers. During these periods, nutritional supplementation may be necessary.

Table 1 shows some sample calculations for supplementation of some different classes of goats. The example shows a feed containing 14 percent crude protein (CP) and 70 percent total digestible nutrients (TDN). In addition, the example assumes that all of the animal's nutritional requirements will come from the feed. The intake required for this feed was calculated to satisfy the most limiting nutrient (CP or TDN) for that class of animal. Using the table, it is obvious that a lightweight (33 lb.), young, growing kid will not be able to meet its nutritional requirements with this feed. The kids cannot eat enough to satisfy their requirements. Thus, a higher protein and energy diet would be required if adequate high-quality vegetative forage is not available.

As with mature cows, a mature doe's nutritional requirements are more easily met than that of their offspring. But one must consider that the requirements for CP are higher for does than beef cows on a percentage basis. Therefore, we have to get used to thinking of the goat in different terms than we do cattle if we are going to be successful in their care and management.

## Fencing Goats

Goats are excellent crawlers, climbers and jumpers. Unless they are well-contained, it is likely that they will pull a "Houdini" and get away. There are also times when you may want to contain the goats to force them to eat a certain area or type of brush.

For small acreages or managing a few goats, 16-foot x 4-foot welded wire cattle panels will usually keep goats in place. These can be easily moved around to the weed patches you want the goats to eat, and, when fastened together in the four corners to make a square, they are sturdy enough to stand alone. An example is shown in Figure 1. They are also flexible enough to be used in timber or brush and go around trees and other obstacles. Be sure that the panels sit flush enough on the ground that the goats can't crawl under. Depending on the density of the weeds and brush, one or a few goats will usually consume the vegetation in this 16-foot square in one or more days.

For larger areas and larger numbers of goats, woven wire is usually the best option for fencing. Some people use electric fence or a hybrid of electric hot wires and barbed wire neutral wires, but this doesn't always work. The fence needs to be both a physical and mental barrier. One option is to use a natural water feature as a boundary. Typically, goats will not wade or swim across water.

One danger with any fencing type is that some goats will get their heads stuck in it, especially if they are not de-horned. Others will learn to jump or crawl over the fence. Goats exhibiting such bad behaviors will usually repeat them and should be quickly culled in order to get the maximum weed control benefit with the least number of problems.

Goats can be a valuable tool for brush and weed control, and can diversify an agricultural enterprise while supplying an additional source of revenue. Using goats for brush control is a slower method than spraying chemicals, but could be less costly in the long run.



*An example of a movable goat pen made from 16-foot x 4-foot cattle panels joined in the corners with rubber tarp straps. When brush is cleared to this extent, it is time to move the pen to a new location.*



*Typical vegetation before and after goats have grazed an area.*

**Table 1. Recommended nutritional requirements of goats in various stages of production<sup>1</sup>**

	Weight (lbs)	ADG or milk yield (lbs/d)	Daily Requirements (lbs/d)		Required DMI		Estimated DMI <sup>2</sup> (14% CP, ~70 TDN)	
			TDN	CP	(lbs/d)	(% BW)	(lbs/d)	(% BW)
Beer kid	33	0.25	0.84	0.2	1.25	3.81	1.50	4.55 <sup>3</sup>
	33	0.44	1.17	0.33	1.3	3.96	2.35	7.12 <sup>3</sup>
	55	0.25	1.1	0.23	1.61	2.92	1.65	3.00
	55	0.55	1.59	0.42	1.76	3.22	3.00	5.45 <sup>3</sup>
Mature doe (late gestation)	88	0.25	1.39	0.28	2.84	3.23	2.00	2.27
	88	0.55	1.90	0.47	2.84	3.23	2.70	3.07
Mature doe (mid-lactation)	132		2.82	0.48	4.25	3.22	4.05	3.07
	154		3.13	0.51	4.71	3.06	4.50	2.92
Mature doe (mid-lactation)	132	3.20	2.45	0.25	4.61	2.09	3.50	2.65
	154	3.48	2.71	0.28	5.09	2.31	3.90	2.53

<sup>1</sup>Values that are excessively high on % BW for the 14% feed indicate that the total consumption would not be enough to meet requirements. Physical limitation of the amount of feed would become a factor.

<sup>2</sup>Adapted from: Nutrient Requirements of Small Ruminants, NRC, 2007.

<sup>3</sup>Dry Matter Intake