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# Guide to Raising Healthy Goats

**Aerica Bjurstrom and Dave Wachter**

There is no doubt that goat production is a hot topic in Wisconsin. The southwestern part of the state has the greatest concentration of dairy goat operations in the country. Seminars sponsored by the University of Wisconsin-Extension and the Department of Agriculture, Trade, and Consumer Protection are very well attended. And questions about goat management come into local Extension offices on a daily basis.

If you are thinking about starting a goat operation, this publication is for you. It is not a detailed management guide but rather an overview of things to consider before taking the plunge into raising goats. For more in-depth information, consult the **Additional Resources** listed at the end of this publication.

Let's start at the very beginning. There are three basic types of goat enterprises: meat goats, dairy goats, and fiber goats. Some producers choose one type, while others combine all three systems in their operation. There are also additional sources of income from raising goats, such as breeding stock sales, sales of excess males from a dairy operation, and leasing out meat goats to clear brush. Your interests and abilities and the physical resources on your farm should determine which type of enterprise you choose.

## Breeds

### Meat

Goats from all breeds are slaughtered for their meat. There are a few breeds, however, that are more specialized for meat production. The Boer is the breed that most people in the Upper Midwest associate with meat production. It was developed from the native goat population in South Africa, with the possible addition of genes from European and Indian breeds, and it has been intensively tested and selected for meat production. Boer goats were first imported to the United States in 1993, from New Zealand.

Other goat breeds well suited for meat production include Spanish, Pygmy, Kiko, and Myotonic (Fainting Goat).

### Dairy

The American Dairy Goat Association recognizes eight breeds of dairy goats. In addition, there are many minor breeds found in Wisconsin and around the world. The breeds most commonly selected for high milk production are Alpine, LaMancha, Nigerian Dwarf, Nubian, Oberhasli, Saanen, and Toggenburg. Table 1 shows the size and milk production of five of the most common dairy goat breeds. Choosing which breed to raise should depend not only on the amount of milk yielded but also on the quality of the milk produced. Higher fat and protein percentages indicate higher quality milk.

**Table 1. Size and milk yield of common dairy goat breeds**

Breed	Height (in)	Weight (lb)	Milk yield (lb)	Milk fat (%)	Milk protein (%)
Alpine	30	135	1,990	3.56	3.06
LaMancha	28	130	1,712	3.80	3.29
Nubian	30	135	1,572	4.61	3.66
Saanen	30	135	2,077	3.52	3.02
Toggenburg	26	120	1,915	3.38	3.01

Source: Dairy Goat Journal.

## Facilities

### Fencing

Fencing is the most important aspect of goat facilities. Goats are natural climbers and are very curious. They will test their limits with fences and attempt to escape from confinement no matter how much space they are given. Fencing for goats serves the dual purpose of keeping the animals in a defined area and keeping predators out. There are several effective fencing options for goats. High-tensile electric fence is one excellent option. Use a minimum of five strands of wire with wire spacings of approximately 6, 5, 5, 8, and 10 inches, starting from the ground and working upward. Another option is to use a combination of woven wire and offset electric fence, with a perimeter electric wire installed 6–10 inches above the ground. If choosing this option, it is vital to keep grass clear of the fence to prevent grounding out. Welded wire panels are yet another possibility and offer excellent fencing for young goats. They can be costly but are a safe and secure fencing option.

### Housing

Goats are very adaptive animals and do not require elaborate housing. They do, however, require protection from precipitation, wind, and sun. In fall, winter, and spring months, goats require shelter from cold rain and snow. A simple three-sided shed facing away from prevailing winter winds will suffice, as long as the shed isn't drafty. In summer months, it is most important to provide shade and adequate fly control for your animals.

### Kidding pens

It is a good idea to supply a covered, draft-free area for kidding. A typical doe requires a pen approximately 4½' x 4½' x 3' for kidding.

### Water

Plenty of fresh, clean water is essential for your animals. While there are many options for providing water, the most common are automatic bowls, both with and without heaters, and galvanized or poly tanks. A typical goat can consume between ½ and 4 gallons of water per day. Be sure to use a tank with sides low enough for your kids to drink without choking themselves. To prevent water in the tank from freezing in the winter, use a simple tank heater, available at your local farm supply store.

### Feeding/loafing lots

Some facilities house goats in winter loafing lots or barns. Since many does are pregnant during winter months when they are typically housed indoors, it is important to supply them with adequate space to help prevent injury and reduce stress. Remember, the larger the animal, the more individual space it requires. Be sure to provide all of your animals with plenty of space for both resting and eating. It is also a good practice to feed goats at a fence-line feeder to avoid being mobbed by your animals when feeding inside a pen or pasture.

## Reproduction

In a sense, reproduction is the most important part of goat herd management. If your does are not bred, your milk goats will not produce milk and your meat goats will not have offspring for you to sell. There is much to know about goat reproduction; what follows is a brief overview to get you started.

A doe reaches puberty at 7–10 months of age, depending on her breed and level of nutrition. Does should weigh 60–75% of their adult weight before they are bred in order to ensure that they are big enough at kidding time. It is generally most profitable to have your does kid as yearlings, and they should produce a kid each year after that. Goats are seasonal breeders, the does reacting to shorter days by coming into heat, and the peak of breeding season is from October to December. Kids are born about 150 days after breeding.

Before turning a buck in with your herd, have a veterinarian check the animal for overall health and perform a breeding soundness exam. Another option is to breed your does artificially, enabling you to select superior bucks to be the sires of the next generation.

## Nutrition

All animals require the same basic groups of nutrients: water, protein, energy, minerals, and vitamins. Animals of different ages require different amounts of each nutrient group. Also, species vary in their ability to utilize certain feedstuffs. For instance, ruminants such as goats, with their multi-chambered stomachs, are able to digest forages much more readily than simple-stomached animals.

Nutrient requirements are often expressed in concentrations, or percentages of total diet. This information can be useful, but it overlooks variation in intake. A more comprehensive way to look at nutrient requirements is in pounds per day. Animals eating coarse, mature forages may not be able to consume enough to meet their needs, while those eating lush, immature forages may take in more nutrients than necessary.

In general, goats need a consistent source of clean and cool water, high-quality forage, a grain for energy, and free-choice mineral with added vitamins. During the growing season, pasture can provide most or all of the forage. Take care with pastures that contain high percentages of legumes such as alfalfa or clover, as these can cause bloat. Supplemental dry hay may reduce this risk. In wintertime, good-quality dry alfalfa hay is generally a suitable forage, though other types of hay can be used. The grain component of a goat's diet is often fed as a pellet since goats don't seem to care for finely ground grains. Homegrown grains can be used if they are rolled or coarsely ground.

## Health care

### Dehorning

Both males and females of many goat breeds naturally grow horns, while some breeds are naturally polled, having no horns. It is your decision whether to dehorn your goats. Goat horns tend to curl upwards or back behind the ears and outwards and have sharp points at the ends, which can be a danger to handlers. Goats with horns often use them for both defense and aggression. If you choose to dehorn your goats, the most common method is to use a dehorning iron. Caustic paste is another option. Dehorning should be done within 5 days after birth.

### Castration

Castration should be done before kids are 2 weeks of age. While there are various methods of castration, the most common and safe are to use either an elastrator or a docker knife, which is similar to scissors. Be sure to remove both testicles from male kids; if one is retained, the kid is an intact male, capable of reproduction.

### Shearing

Most goats do not require shearing. However, animals raised for fiber should be shorn at least twice a year to ensure fleece quality and animal health. Either electric or manual shearers will do the job.

### Hoof trimming

Hoof maintenance is very important for goats. Hooves may require trimming two or more times each year, depending on the particular animal. Although some goats will wear down their hooves just from everyday walking, some will need regular trimming. Hoof trimming is an acquired skill and must be done correctly. If done incorrectly, it can be very painful for a goat and may cause it to become lame. Hoof-trimming tools are rather inexpensive and are available at your local farm supply store.

## Disease and biosecurity

Biosecurity involves taking measures to prevent the introduction of disease agents and their spread to and from animal populations or their proximity. There are three main components:

- **isolation**—the confinement of animals away from other animals
- **traffic control**—controlling the movement of people, animals, and equipment
- **sanitation and husbandry**—the cleanliness and care of animals and their environment

New diseases are most commonly introduced to a herd through new animal additions. To prevent the introduction of new diseases, work with your veterinarian to design a biosecurity protocol.

Parasite control for goats is extremely important. Most serious parasites reside in the forages that goats graze on. Areas receiving significant rainfall have higher occurrences of excessive parasite problems. The best way to determine whether your goats have parasitic worms is to have your veterinarian check a stool sample. Another way is to watch for signs of anemia by checking your goats' gums and the conjunctiva around their eyes. Uninfected goats will have bright pink skin in these areas. Pale pink or gray skin is a sign of anemia, and the goat may need to be dewormed. Check with your veterinarian for advice on the best deworming medications.

It's also important to be aware of the potential for contagious diseases in goat herds. Johne's (pronounced YO-neeZ) is a contagious, slow developing, and fatal bacterial disease of the intestinal tract. Johne's is difficult to detect in goats; weight loss in an animal with a good appetite may be the only indicator. There are two common ways to test goats for Johne's: perform a culture of fecal samples or test blood for antibodies to *Mycobacterium paratuberculosis*. Johne's is generally considered incurable, and it is best to remove an animal from your herd if it is known to carry the disease.

Another health concern for goats is Caprine arthritis encephalitis (CAE). Most goats infected with CAE virus are asymptomatic, but there are five major clinical presentations associated with the viral infection: arthritis, encephalitis, mastitis, interstitial pneumonia, and progressive weight loss. Preventing the introduction of CAE virus is crucial in goat herd management because there is no vaccine or cure. As with Johne's, it is best to remove known carriers of CAE from the herd.



## Manure management

All livestock producers are responsible for properly and safely disposing of manure. Because many goats spend most of their life on pasture, goats act as “natural manure spreaders,” meaning buildup of manure is minimal. However, there are certain situations in which goats are confined and manure may accumulate, such as when goats are penned for handling, giving birth, or winter feeding. Generally, spreading this solid manure does not require special permits or involve rules for proper disposal. When you do spread solid manure, avoid spreading it near known sinkholes, during rain, near permanent and intermittent bodies of water, and on steep land grades. Contact your county Land and Water Conservation office for more information about manure-spreading guidelines.

## Behavior and handling

Here’s some basic information to keep in mind when handling goats:

- Goats are very social and curious animals and can be easily trained to follow with a lead or pail of grain.
- Goats move in family groups, with the older females moving first.



- Keep movement of animals quiet and calm. Do not yell at or hit goats, and never use an electric prod on them. If using a dog, be sure it is well trained and does not bite the goats.
- Sheep-handling equipment can be used to handle goats, but goats may be more difficult to handle. They do not flow through the system as easily, and they stress quickly. Handling goats may require higher gates than sheep, and goats will find any existing escape spots in the handling system.
- Goats may become aggressive towards each other in times of stress. To reduce the animals’ stress and confusion, perform “test runs” of the handling equipment with them.
- Keep facilities and loading chutes well lit and free from shadows. This helps reduce balking caused by reflections and bright spots.
- Funnel animals into loading chutes gradually to reduce bunching and jamming.
- Goats prefer to move uphill in raceways; inclines should be gradual.
- Single-file pathways prevent goats from attempting to turn around or bunch up.
- When in handling pathways, goats will follow other goats in front of them.
- Curved pathways allow goats to move forward without seeing work areas or chutes until they are upon them. The curves should be gradual so the pathways do not appear blind ended.

## Additional resources

### Books

- Goat Farming*, by Alan Mowlem.
- Goatkeeping 101*, 2nd ed., by Caprine Supply.
- Sheep & Goat Medicine*, by D.G. Pugh.
- Sheep Housing and Equipment Handbook*, 4th ed., by MidWest Plan Service.
- Storey’s Guide to Raising Dairy Goats*, by Jerry Belanger.
- Storey’s Guide to Raising Meat Goats*, by Maggie Sayer.
- Your Goats: A Kid’s Guide to Raising and Showing*, by Gail Damerow.

### Videos and DVDs

- Goat Breeding & Kid Rearing with Hilary Mathews*, Old Pond Publishing, 1996.
- Shearing Techniques with Fiona Nettleton*, Rural Route Videos, 1988.

### Websites

- Boer & Meat Goat Breeders  
[www.goatbreeders.com](http://www.goatbreeders.com)
- Colored Angora Goat Breeders Association  
[www.cagba.org/breeders.shtml](http://www.cagba.org/breeders.shtml)
- Dairy Goat Journal  
[www.dairygoatjournal.com](http://www.dairygoatjournal.com)
- Maryland Small Ruminant Page  
[sheepandgoat.com/Index.html](http://sheepandgoat.com/Index.html)
- Oklahoma State University Breeds of Livestock  
[www.ansi.okstate.edu/breeds/sheep/](http://www.ansi.okstate.edu/breeds/sheep/)
- University of Wisconsin Johnes Information Center  
[www.johnes.org/goats/faqs.html#1](http://www.johnes.org/goats/faqs.html#1)
- Wisconsin Dairy Goat Association  
[www.wdga.org](http://www.wdga.org)

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