

Dairy Goats

for Family Milk Supply

M. Gamroth

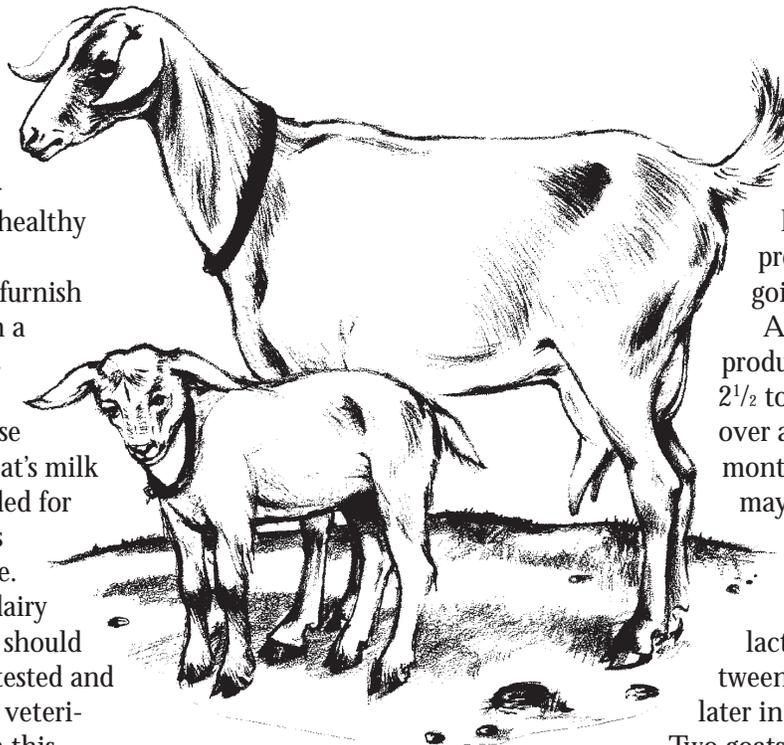
The goat is a friendly animal and easy to keep. With proper attention, goats are generally healthy and affordable.

One or two goats can furnish fresh milk for a family on a year-round basis. Surplus milk can be used for butter or cheese or to raise other young animals. Goat's milk is sometimes recommended for infants or elderly persons since it is easily digestible.

If you plan to keep a dairy goat for family milk, you should be certain the animal is tested and is free of disease. A local veterinarian can help you with this.

Some communities have zoning laws or ordinances that prohibit goats or other animals in urban areas. Check the regulations for your area.

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milk production depends on amount of milk daily and how long the doe will produce before going dry.

A good milker will produce an average of 2½ to 3 quarts daily, over a period of 9 to 10 months. Such goats may produce up to 1½ gallons daily during the peak period of lactation and between 1 and 2 quarts later in the lactation.

Two goats, bred to freshen 3 to 4 months apart, should assure some milk every day of the year.

Buying a goat

Since most people want only to supply family milk, good grade or non-registered goats will serve this purpose. For a variety of reasons you may prefer to buy registered, pedigreed animals, but the cost will be higher. If your goal is milk, your chief concern will be the milking ability of the goat. Total

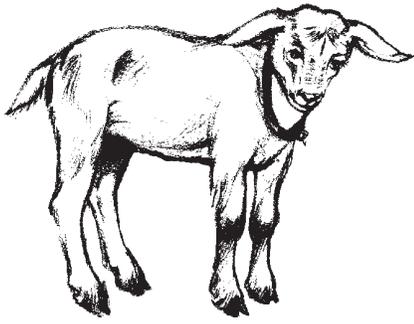
Goat breeds

There are five main breeds of dairy goats. They are Toggenburg, Saanen, Nubian, Alpine, and American La Mancha. All breeds do well in Oregon. More information about the breeds and



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purebred registrations is available from the American Dairy Goat Association (ADGA), P.O. Box 186, Spindale, NC 28160 and from the American Goat Society, 1606 Colorado St., Manhattan, KS 66502.

Certain characteristics are stronger in some breeds than others. Toggenburgs are recognized for long lactations, with fat content of milk averaging 3.8 percent. Saanens are larger goats and are recognized for being heavy milkers, with 3.5 percent fat average. The smaller Nubians are noted for higher milk fat than the other breeds. Alpines are recognized as a hardy breed and milk well, producing about 3.5 percent fat milk. A characteristic of the La Mancha breed is no visible external ears. They are large animals and good milkers, with milk at about 4 percent fat. Angora and pygmy goats are *not* good milk animals.

Consider getting a breed for which you can obtain buck service from a breeder in your community. In the Northwest, there are several goat breeders of all the breeds. Check with your county Extension office or local farm publications for breeders in your area.

Feeding

Goats are ruminants, like cows and sheep. Thus the principles of feeding are similar. Goats require large amounts of good forages, supplied by hay, browse from brush and shrubbery, and pasture. Like cows, goats need good quality feed to maintain their bodies and to provide nutrients for milk production.

In the summer, pasture and browse can supply most of the forage ration, and may reduce the grain needed for a milking animal by up to one-half, depending on the body condition of the animal.

A ration for a milking doe should include 2 or 3 pounds per day of grain or commercial concentrate feed and, when pasture and browse are not available, 3 or more pounds of good clover or alfalfa hay, available free-choice. The grain can be a 16 percent protein dairy grain, available at your local feed store.

If only fair quality grass hay is available, the amount of grain or concentrate mix should be increased about one-fourth. To ensure that each animal gets its share of grain, feed them in separate stalls or tie them individually, with their own ration.

Some goat raisers feed grain at the rate of $\frac{1}{2}$ pound grain daily for each quart of milk produced. This practice assumes the goats also get their proper share of hay or other roughage. Dry does in the winter should get about $\frac{1}{2}$ pound grain daily plus all the hay they want and plenty of fresh water.

Dry does in summer, with good pasture and browse, can get all their needs from these forage sources. Keep a block of trace mineralized salt available to the goats, along with plenty of fresh, clean drinking water.

The ingredients of most feeds normally furnish adequate nutrients at the suggested feeding levels, so there is no distinct advantage in using special stock tonics. Do not delay calling your veterinarian in situations of illness or infection.

If you want goats to clean up weeds, remember that some plants give milk an off-flavor or may be toxic. Goats generally are “dainty” feeders, so keep their feed clean. Prevent puddles and stagnant pools of water where goats are kept or fed in corrals and pens.

Water

Clean, fresh water *must* be provided and protected against contamination. To stay healthy and produce well, goats must drink large quantities of water. Water tanks should be constructed so they can be drained and cleaned.

Age to breed young does

You can breed a doe when she is 9 months old or weighs 80 to 95 pounds. Locate a buck of the breed desired well ahead of time. Most breeders will require that a veterinarian certify the health of your doe.

Does show signs of “heat” (estrus), or receptivity to breeding, for 2 or 3 days every 3 weeks (21 days) in the late winter. Visible signs are restlessness, bleating, frequent urinating, swollen and reddened vulva, and a flagging or twitching tail. After breeding, make a record of the service date. Watch for signs of heat again 3 weeks later, and if none are observed, the doe is probably pregnant.

Count 21 weeks ahead on the calendar from the breeding date, and mark as the date due. Does will “kid,” or give birth, 145 to 150 days after conception.

Kidding

Ordinarily, a doe gives birth quickly and often with no one present. For this reason, a few days ahead of the date due, put the doe in a clean, freshly bedded pen. Be sure she has a supply of clean water to drink and a box for feed. Early signs of labor include lying down and standing frequently, bleating, or pawing the floor.

If the doe seems to have trouble or labors more than 2 hours, call a veterinarian or someone familiar with goat or sheep births.

As soon as possible after a kid is born, clear its nose of membranes or mucous to prevent suffocation. Disinfect the navel cord with iodine and dry the kid.

Be sure the doe’s teats are functional by gently milking a stream from each teat. Clear wet bedding and afterbirth from the pen.

The first milk of a fresh animal is called colostrum. It is valuable and necessary for all newborn animals to have colostrum as their first feed. Do not milk the doe completely for the first 24 hours after kidding, so the newborn kids get this colostrum.

Any colostrum not needed for the kids can be frozen in small containers for future use and for kids that may be weak, sick, or off-feed.

Raising kids

If kids are to be bottle or hand-fed, put them in a bedded box free from drafts.

Some goat raisers find it more convenient in raising kids to teach them to drink from a pan rather than a bottle. Teaching a young animal to drink can be frustrating, but be patient. It may be easier if the kid never suckles the doe. *Remember that newborn kids must have colostrum milk the first two feedings at least*, regardless of the method of milk feeding.

Feed warmed milk (95° to 100°F) to kids 3 times daily for the first 2 weeks, using 1 cup ($\frac{1}{2}$ pint) milk per feeding. At 2 weeks of age, have some grain or calf meal and some good leafy hay available for the kids to eat. Milk can be discontinued at 3 to 4 months of age, if kids are eating a high-protein concentrate mix and appear to be growing normally.

Allow adequate space for kids to exercise, run, and play. Play becomes part of their growing requirements.

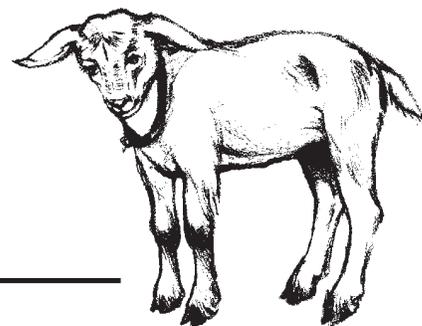
Milking the doe

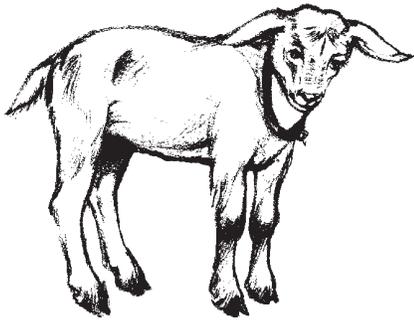
Does should be fed their grain as they are milked. A milking stand or platform is convenient during milking. Milk your goats regularly every 12 hours. Generally, goats are milked at the right side, but they can be trained to milk from either side.

After the 4th day following freshening, goat milk may be used for human food. It is just as important to produce clean, high-quality milk for use at home as when producing milk for sale to others.

One minute before milking, wash the udder with warm water, then dry it. This stimulates milk letdown and helps assure clean milk.

The first squirt drawn from each teat should be discarded, but not milked onto the floor. Be sure both sides of the udder are thoroughly milked out. Incomplete milking leaves the higher fat-content milk in the udder. In addition, the doe will adjust to less milk yield and she may go dry earlier than she would otherwise.





Care of the milk

Rapid cooling is necessary for high-quality and good-flavored milk. Protect the milk container from foreign material. Upon completion of the milking, set the container into a large pan of cold water for 15 to 20 minutes, stirring occasionally to hasten the cooling. Water cooling removes heat from the milk faster than just setting the container of warm milk in the refrigerator for the same length of time. After the milk has been cooled in water, you can put it in the refrigerator.

Stop milking and allow goats to “dry up” 6 to 8 weeks before they again are due to kid. To turn dry, simply reduce the feed and quit milking the doe. The udder may become slightly congested for a few days, but soon the milk will be reabsorbed into the body. If mastitis, or udder infection, has been a problem during lactation, a veterinarian can prescribe an antibiotic treatment that is most effective in the dry period.

Housing and equipment

Dairy goats do not need fancy housing. Old buildings can be adapted. Before you remodel a building for housing goats or build a new one, visit several

well-constructed goat dairies and gather important facts on build-ings, equipment, ventilation, and general layout.

In any housing plan, arrange for the most efficient method for handling heavy materials such as hay, grain, and manure. Wherever possible, store hay on the same level as the animals. This will save labor and the extra cost of building overhead storage strong enough to support baled hay.

You may load manure daily into a spreader or cart for removal to the fields, or you may construct a storage pit. Check with your local Extension agent for information on acceptable, efficient manure storage and disposal methods.

Housing and fencing for goats should be ready for use before you buy the animals. Pens or stalls should have a rack for hay, a trough or box for grain, and a water pail holder. Partitions should be 4 feet high. Pens should be a minimum 5 feet by 5 feet. Temporary kidding pens can be formed with moveable panels.

Designs and plans for feed racks, panels, milking stand, and other equipment are available from Farm Building Plan Service, 228 Gilmore Hall, Oregon State University, Corvallis, OR 97331.

Fences

You should have a permanent, goat-proof fence around your property boundaries. It should be tight and in good repair. Woven wire or high tensile electric fencing at least 4 feet high is best.

The spacings on the lower portion should be small enough to keep young animals from getting through. Most goat raisers find barbed wire fencing hazardous and injurious to goats. Some operators have success with a two-wire electric fence with mature animals, but there is a risk of some animals escaping.

Steel and iron posts are quicker to put in than wooden posts if the soil is not rocky, because they can be driven in. Wooden posts require the added labor of digging post holes. All good fence posts are expensive, so consider labor, cost of installation, and expected service life. The closer the posts and the heavier the gauge of wire, the more durable but also more costly the fencing.

An electric fence is satisfactory for dividing pasture plots. An adequate fence post spacing is 1 post every 14 to 16 feet. Three wires spaced approximately 10, 20, and 40 inches from the ground usually is adequate and is less expensive than permanent fences.

Some goats will get through or over nearly any fence. To prevent this, some people install an overhanging wire, about 10 inches from the inside and top of the fence, supported by offset pieces nailed to the posts. Others place an electric wire on the inside of woven wire fences about 1 foot out so goats cannot get near the fence. The wire may be held with insulators on a brace nailed to the fence post.

Tethering goats is not satisfactory, but may be necessary.

A metal chain, dog-type tether must be long enough to allow the goat to get plenty of feed and drinking water. Change the location daily. Tethered goats should have access to shade or movable shelter for protection from storms.

Provide dry, well-ventilated shelters, free of drafts. Avoid swampy land for goats.

Milk room

If you plan to build a commercial goat dairy, you *must* consult a state sanitarian before building to be assured of license approval. To contact your local sanitarian, call the Food Safety Division, Oregon Department of Agriculture, at 503-378-3790. The best-planned facility will have a room for milking and a separate room for cooling and storing the milk, and for washing and storing utensils.

Suggested milk room equipment

- Double sink for rinsing and washing utensils
- A source of hot and cold water
- Cupboard in which to place sanitized utensils
- Small-topped pail, strainer, brushes, and an electric milker (for larger herds)
- Scale and forms for recording milk weights
- Form for recording breeding and birth dates

Dehorning kids

Many kids can be dehorned at about 1 week of age. Don't wait until a solid horn is evident, or treating may produce a disfigured horn.

1. Use an electric dehorning device. Another local goat owner may help you dehorn your kids or loan you dehorning equipment. The end of the electrically heated dehorner should be from $\frac{3}{4}$ inch to 1 inch in diameter—preferably 1 inch for male kids. Heat the iron to a cherry red. Restrain the kid and apply the iron to the horn spot for 10 to 15 seconds. This should destroy the horn cells. Apply a carbolated petroleum jelly to the spot and release the animal.

2. You may buy a dehorning paste from a livestock supply store. Follow the directions carefully. Keep treated animals separate from others for a day or two because the material is quite caustic and they rub it on each other.

Get the job done before the fly season starts. Mature goats can be dehorned, but you may want to have a veterinarian do this. They usually use a small wire saw, which lessens the bleeding by closing off and crushing the ends of the blood vessels. Disinfect the area and protect against flies. You may use special *elastrator bands*.

Whenever possible, dehorn milking does late in the lactation period, as the milk flow will be decreased.

Hoof trimming

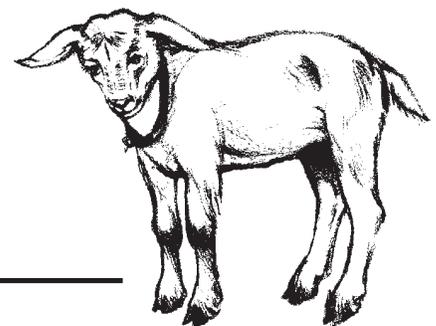
Animals kept on soft, moist bedding, away from cement or asphalt yards, ledges, and rocks, have less wear on hooves and will require regular hoof trimming. Unless feet are kept properly trimmed, a foot can become deformed. Foot bones thrown out of line by a lack of hoof care can cause lameness. This usually shortens an animal's productive life. Check the hooves monthly. Dry hooves are hard, and are difficult to cut. Always trim the feet of show animals no less than a week to 10 days before a show. Trim several times lightly in preparation for a show.

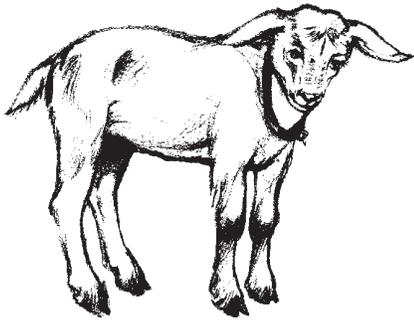
Tools

Sharp pruning shears are handy for trimming toes. It's preferable to use a pruning shears normally used on shrubbery, with a blade that cuts directly onto a lower support pad. Sharpen the shears before you start. A sharp knife also may be helpful. You may wish to buy a farrier's knife, which doesn't have a sharp point, from a livestock supply store.

Procedure

Cut off any bent-over portions of the hoof. This exposes the bottom of the foot. Now smooth





the bottom of each half of each hoof by cutting with a knife from the heel of the hoof toward the toe. Until you gain experience, don't cut too deeply, as you may hit the blood supply. The color of the hoof will become pink as you near the blood supply. By examining the toe from the bottom, you can see where the long toe should be cut off. Do this with the pruning shears.

After you have worked with goats' feet awhile, you will notice that hoof structure varies with different animals. The blood supply is nearer the surface with some animals than others. If you hit the blood supply, don't panic. It is not unusual to cut a little too deeply. Apply direct pressure on the cut area with a clean cloth for a half-minute or so to allow clotting. Usually this will stop the bleeding. If you cut too deeply with the knife and there is spurt- ing of blood, use *sanitized* long-nosed pliers to squeeze the blood vessel. This usually will stop the blood flow. Serious injury to a foot while trimming is very uncommon, so trim the feet regularly.

Tattooing and ear tagging

Tattooing is permanent identification done with a plier-like tool with insertable numbers and letters (available from livestock supply stores). Each number or letter is outlined with sharp, needle-like projections. You can tattoo in the ear, being careful not to hit the ridges in the ear, or in the soft tissue on one side of the tail. To be sure correct characters will be printed, test the tattoo machine, with numbers or letters in place, on a piece of paper. Then clean the area to be tattooed with a cloth, and stamp the cleaned area with the tool. Rub tattoo ink into the holes with your fingers.

Ear tagging of valuable dairy goats is not popular because the active and inquisitive animals may catch the tag on a fence or brush and rip the ear, thus disfiguring it. If tag the ears of commercial goats, take care to place the tag about 1 inch from the head, on the top edge of the ear, where it can be read easily. Use either an ear punch or a self-piercing tag. The ear punch allows more room around the tag after healing, so the ear is not so sensitive.

Castration

Buck kids that are not to be used for breeding should not run with the herd beyond 2 to 4 months of age. Well-fed animals mature early and may breed the young females. If older bucks are to be used for meat purposes,

castrated them at an early age to avoid off-flavor, less tender meat.

The earlier male kids are castrated, the less shock to them. Get the job done as soon as the testicles descend into the scrotum. This may vary from 1 to 3 weeks of age.

When cutting instruments or the elastrator are to be used, do the job before the fly season or warm weather sets in. Animals to be castrated with a cutting instrument should not be excited, because the heart beats faster and there may be more blood.

Methods of castration

Elastration. The elastrator is an instrument that looks like a pair of pliers. The tool is used to expand a special rubber ring so that it can be placed over the testicles. Sit down, hold the kid on your knees, push the testicles into the scrotum by pressing the belly wall with one hand, and slide the hand toward the scrotum. With the other hand, expand the ring and slip it over the testicles, being sure both testicles are present before releasing the ring. The testicles will drop off in 10 to 14 days. The animal will show discomfort for about an hour.

Emasculation. The emasculator is a heavy, long-handled, cord-crushing instrument. It is placed above each testicle, but below the rudimentary teats. Crush each cord separately and hold the instrument on for 10 to 15 seconds. Do the second cord below the first one. The scrotum or sac remains on the animal, but

testicles dry up, as the blood supply doesn't get to the glands. This is a bloodless operation, safe to use in fly season, and the animal will show less shock than with the use of the elastrator. You may use the emasculator on older animals, but they will show more shock than younger animals because their cords and blood supply are further developed. Unless you use great care with the instrument, the animal may not be completely castrated.

Cutting. Use of a knife is the surest method, but involves a small amount of blood. There seems to be less shock when a knife is used. Sanitize the lower one-third of the scrotum and the knife with a mild disinfectant. Have someone sit down and hold the kid on his or her knees, with the kid on its back and its legs secured by the hands of the holder. Cut off the lower one-third of the scrotum, exposing the two testicles. With disinfected hands, draw each testicle out slowly, and scrape the cord with a dull knife until it is severed. There

will be several drops of blood. Place young animals back with their mother in a clean, well-bedded pen to prevent infection.

You can castrate mature bucks this way too, but instead of scraping the cord off, use an emasculator, which has a crushing edge on the upper side of its blade and a cutting edge on the lower side. The crushing pinches off the blood vessels so there is less bleeding. Don't use a knife during the fly season nor in unsanitary conditions. It's safer to have a veterinarian castrate older animals, as it involves more shock and bleeding.

For further reading

Countryside Small Stock Journal,
Countryside Publications, Rt.
1, Box 239, Waterloo, Wisconsin 53594.

Dairy Goat Journal, P.O. Box 1908,
Scottsdale, Arizona 85252.

Dairy Goat Feeding, Breeding and Management, ADGA, P.O. Box 186, Spindale, North Carolina 28160

Milk Goats—Why? What? and How? ADGA, P.O. Box 186, Spindale, North Carolina 28160

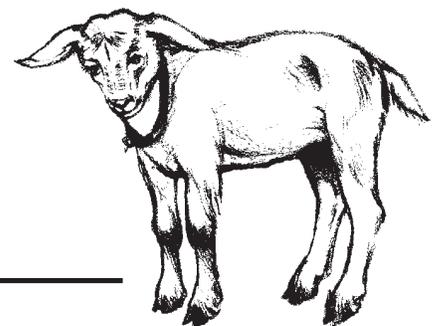
Raising Livestock on Small Farms,
Farmers' Bulletin 2224, U.S.
Government Printing Office,
Washington D.C. 20402.

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