



4-H Pygmy Goat Project

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OREGON STATE UNIVERSITY EXTENSION SERVICE

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Your 4-H pygmy goat project

Purpose

In a 4-H pygmy goat project, you as a 4-H member will:

- learn how to select and care for a pygmy goat;
- learn responsibility for having animals of your own to care for regularly;
- learn the importance of keeping accurate records;
- learn about nature's processes by caring for animals; and
- learn citizenship, sportsmanship, and the value of cooperation.

Advantages

Pygmy goats make ideal 4-H projects:

- They're inexpensive to buy and feed.
- They're easy to handle and transport.
- They require relatively few facilities.
- They're ideal pets.

Requirements

To have a pygmy goat project, these are the important requirements:

- You should find out if you can legally raise a pygmy goat in your area.
- You should own, lease, or have available for your use at least one pygmy goat. If you lose your animal during the project, you may continue as a 4-H member. You can attend meetings and tours, participate in presentations and judging contests, and get credit for your record book. You can also obtain another pygmy goat.
- You should have time each day to care for your animal.
- You should have a shed or shelter to protect your animal from the weather.
- You should be responsible for feeding and caring for your pygmy goat—and do most of the work yourself.
- You should have suitably fenced pasture, feed, and necessary equipment.
- You should keep a record of your pygmy goat project on a *4-H Animal Science Record*, 4-H 1001R (junior) or 4-H 1002R (senior).

Opportunities

As a 4-H member, you will have an opportunity to:

- belong to a 4-H livestock or goat club with other boys and girls;
- attend 4-H trainings and tours;
- give presentations about pygmy goats;
- learn how to identify crop plants, grasses, and weeds;
- exhibit your project animal at a fair;
- learn how to select livestock and to participate in judging contests;
- participate in shows and contests; and
- learn how to keep meaningful records.

Activities

If possible, use your own money to pay for your pygmy goat project. If you need to borrow money, make a businesslike arrangement with your bank or with your parents. Be sure to meet your obligations when they're due.

Here are other activities you'll take part in:

- Keep accurate, monthly records on your pygmy goat. Records are interesting and can be fun if you use them properly.
- Learn the parts of the pygmy goat so you can talk about them.
- Learn how to feed pygmy goats properly so they will remain healthy.
- Learn about diseases of pygmy goats and keep your animals free of parasites.
- Teach your goats to lead while they're young.
- Be kind to your animals. Teach them to trust and respect you.
- Make your animals comfortable. Be sure they have shade, fresh water, salt, a dry place to lie down, and freedom from flies, lice, and other pests.

Learning about pygmy goats

Pygmy goats were first imported into the United States in 1959, and they're now raised mainly as pets or laboratory animals. Some people milk them.

Pygmy goats are small, compact animals. Their legs, neck, and head are relatively short in relation to body length. The body circumference in relation to height and weight is proportionally greater than that of other goats.

Pygmy goats are hardy, alert, and playful. They have even temperaments and love company, either human or goat.

Goats really like people, and they like to play. Along with dogs, they are believed to be the earliest domesticated animals. They'll follow like puppies and cuddle like kittens. But don't play butt games with them—that will teach them bad habits.

Pygmy goats enjoy something to climb and balance on. They're fun to watch—even the adults will jump around and scamper. Sitting outside in a sunny spot with a goat friend can be relaxing and enjoyable.

The coat of straight, medium-length hair varies in density with seasons and climate. Females may be beardless. Adult males should display abundant hair growth with full, long, and flowing beard and a large mane that drapes capelike across the shoulders.

All colors are acceptable, but the most common is a grizzled, salt and pepper pattern of any color. Common colors are blue, agouti (speckled), black agouti, carmel, and white agouti.

The breed specifications require that the muzzle, forehead, eyes, and ears be accented in tones lighter than the dark portion of the body, except in goats that are solid black. Front and rear hoofs and stockings are dark, and so are the crown, dorsal stripe, and martingale (see figure 1 and "Guidelines for judging pygmy goats," pages 10-11).

The head should be short to medium in length with a slight dish and naturally horned; disbudding and dehorning are recommended.

The female is considered mature at 24 months and the male at 30 months. At that time, females and males should have a minimum height of 16 inches.

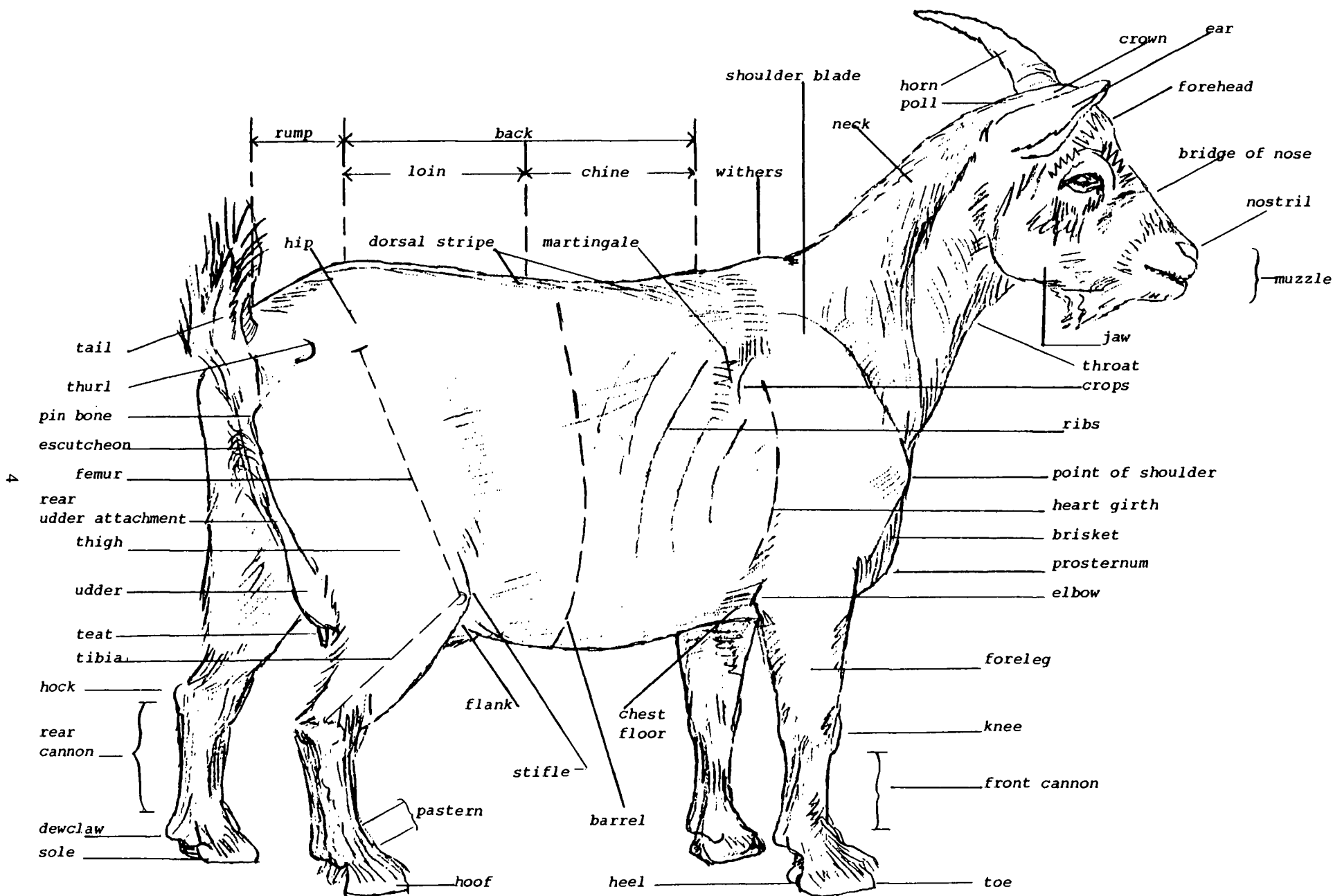


Figure 1.—The anatomy of the pygmy goat.

Glossary of terms

Compare this list with figure 1. The terms that are printed in *italics* here are also labeled in figure 1.

Anterior	Front end (the opposite of posterior).
<i>Barrel</i>	Mid-section of body; rib cage.
Blind teat	Lacking an opening.
Buckled joints	Excessively bent or bent in the wrong direction.
<i>Cannon</i>	Front: leg bone between knee and pastern joints. Rear: leg bone between hock and pastern joints.
Chine	Backbone, spine.
Cobby	Short-legged, thick-set.
<i>Crops</i>	Foreribs.
Crooked face	A face that is uneven or crooked.
<i>Dewclaw</i>	The projection of the leg behind joint of cannon and pastern.
Disbudding	Removal of horn cells before horn develops.
Dorsal	Back.
Dorsal stripe	Linear marking along spine.
<i>Flank</i>	The portion of body where the barrel meets the stifle.
Girth belt	Light marking circling the barrel.
<i>Heart girth</i>	Circumference of chest measured behind the elbows.
<i>Loin</i>	The part of the back from the last rib to the hip.
Malocclusion	Defective contact of opposing teeth in the upper and lower jaws; misalignment.

Martingale	Sideways extension of the dorsal stripe; cross-shaped marking (seen from above).
Mature	Does at 24 months, bucks at 30 months.
Overshot	Upper jaw projects beyond lower jaw. Lower teeth do not contact upper dental pad.
<i>Pastern</i>	The portion of the foot between the dewclaw and the hoof.
<i>Pin bone</i>	The posterior point of the pelvis.
Posterior	Situated behind or at the rear of (the opposite of anterior).
Roman nose	Convex profile.
Rump	Upper portion of the rear.
Slab-sided	Long and flat, rather than well-arched, elliptical rib cage.
Snipey	Long, narrow, pinched.
<i>Stifle joint</i>	The joint between the femur and the tibia.
Undershot	Lower jaw projects beyond upper. Lower teeth do not contact upper.
Ventral	Pertaining to the belly side; lower.
Wattles	Short, finger-shaped appendages on neck or jaw; optional; nonfunctional.
Wether	A castrated male goat.
<i>Withers</i>	The highest part of the back, where the shoulder blades almost touch.
Wry tail	A crooked tail.

The maximum height for the females is 22½ inches. For the males, it's 23½ inches.

Disqualifying defects are: naturally polled, crooked face; Roman nose; multiple teats in bucks; functional rudimentary teats in bucks; bucks with only one testicle or no testicles; evidence of inability to reproduce; evidence of hermaphroditism (no sex organs); permanent lameness; or permanent total blindness.



Pygmy goat facts

Gestation period: 145 to 155 days

Estrus period: 2 to 3 days

Breeding season: August to mid-March

Number of offspring: Average of 2.1/kidding

Number of front teeth: eight

Caring for your pygmy goat

Goats are lovable, responsive pets that will be easy to care for if you're careful with your management of them. If you don't have a healthy goat, you won't enjoy your animal. Healthy animals produce kids easily, give milk willingly, and are inexpensive, efficient brush controllers.

Fencing

Probably, most goat troubles arise from inadequate fencing and housing. Making do with what you have will probably work with tiny 2-month-old kids, but when your goats get bigger, they can jump or climb over some 4-foot fences! They can also open gates and doors with clever use of their noses.

Tightly strung, 4-foot-high stock fencing is recommended. Woven wire is better if you can afford it. The stock fencing with 6-inch squares is preferable to the 12-inch kind. Electric fence is also effective (in some situations, it's less expensive).

Don't use barbed wire fence if you can possibly avoid it because your goats will get tangled—and cut badly. If you have a predator problem with loose dogs, your own dogs, or coyotes, you'll need a higher fence, with some of it underground.

Another reason for good fencing, in addition to protecting your goats, is to keep them from quickly destroying your fruit trees and rose garden. Loose goats, with their nonselective browsing, can also ruin your relations with your neighbors!

You can build good will by allowing your goat to visit your neighbors' blackberry patch, if they request it. Also take time to consider that goats like to reach through fences to eat. Don't put your fence within 2½ feet of any valuable—or poisonous—shrubbery.

Housing

Fence your goats properly, and be sure you have a good latch on the *outside* of the gate. Provide for shade in the summer. They also need a dry place for sleeping, eating, and exercising.

For moderate climates, a three-sided shed that faces northeast is recommended. A canvas drop may cover the open side in bad weather. Barns or sheds can face south if there is a good way to close them. An opening to the south can be very nice on cold sunny days.

Make sure you build the shed so that the rain runs away from the door. Provide for adequate drainage. Some sheds are built with slanted roofs that the goats can climb on. They love to sit on the roof and to butt each other off when they're playing. Make the roof tall enough for adults to walk under.

Bedding

Concrete floors are expensive but are easy to clean. Goats are frequently reared on slatted wooden floors.

Put down fresh straw or leave the hay that drops on the ground—but make sure the surface is dry. If you have a slatted wooden floor, you can let this build up during the winter. The urine and droppings filter down through—and in the springtime, you'll have a supply of organic fertilizer.

You'll also need to prepare raised wooden beds for your goats to sleep on. Goats can get hoof problems if they are forced to stand around on wet bedding.

Figure 2 shows an arrangement that should work well. The composition roofing material helps to wear down the goats' hooves. This in turn helps to avoid frequent trimmings. Leading your goat on a graveled road also helps to wear down the hooves.

Boards to walk on are a real help if your goats have churned up a path through the mud. Even in a large pasture, goats will congregate in favorite spots, and these can become quite muddy. Try feeding them at various locations to avoid this problem. A board sidewalk from the gate to the shed is an improvement over slogging through deep mud puddles.

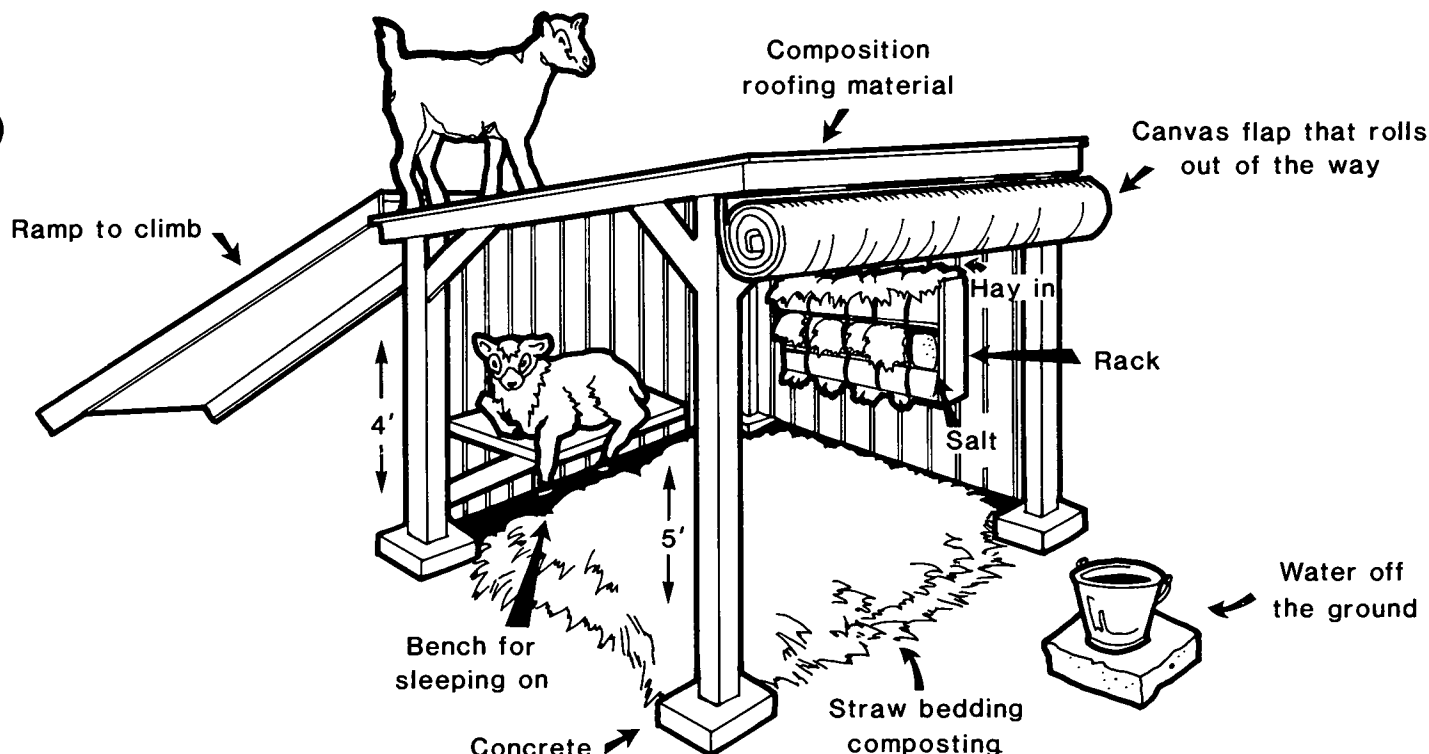


Figure 2.—A plan for a goat shed (suitable for moderate climates).

Inside the goat shed, you need a hay rack that goats won't climb on—you don't want droppings in the food or kids caught and tangled! There are fancy ones available from catalogs and feed stores. You can make a simple hay rack by attaching stock fencing to a shipping pallet with the center boards removed. Nail this at a slight angle to the side of the shed.

Make sure to attach the wire so that the smallest squares are at the bottom. The goats can pull the hay out from this rack easily, and the chaff falls to the ground.

When you've built your rack, drop half of a 40-pound, trace-mineralized salt block inside it. This way, the salt stays dry and sanitary.

Feeding

Goats stay healthy only if they're fed properly for their age, sex, and individual condition. Basically, pygmy goats can live quite well on good fine grass hay and some grain each day.

In the summer, if they have browse available, they will eat less hay—but hay must *always* be available. Fresh, clean water must *always* be accessible. Scrub out the water buckets frequently to prevent scum.

Round, galvanized, steel drip pans (the kind used for oil) make great goat dishes. They're sanitary and indestructible. As you do with the water buckets, make sure you wash and disinfect the feed dishes often, to help control parasites (worms).

Wethers. Feed them carefully—they can develop urinary stones. Give them balanced rations for calcium, phosphorus, magnesium, and protein.

Bucks. Your bucks can also develop urinary stones. Give them the same balanced ration listed for wethers. If you plan to use your bucks for breeding, they'll need extra food

because they're burning up a lot of fuel. They need an average of 2 cups alfalfa pellets a day, depending upon the size and activity level of the buck.

Dry does. Feed them the same balanced ration you give your wethers and bucks. Does are smaller and probably don't need the amount of food that the bucks do. Start with 2 cups and work from there. Over-conditioned (fat) does have difficulty getting pregnant and difficulty in delivering kids.

Pregnant does. Don't overfeed them—but be sure their feed contains approximately 16% protein.

Milking does. They need *twice* the amount of feed that you give your pregnant does. They also need access to increased amounts of water.

Kids will be getting most of their nourishment from their mothers for about the first 2 months of life. They'll start nibbling hay and grain from mothers' feed dishes at about 1 week of age. You can wean goats from their mothers (or bottles) at about 10 weeks of age.

Notes on feed. Feed your goats yard trimmings, such as tree prunings (apple, pear, cherry), cornstalks, plums, roses. Goats thrive on blackberries.

Do not feed azalea, rhododendron, or laurel—they're poisonous. Tansy ragwort is also poisonous to goats. Usually, they won't eat it unless nothing else is available. Controlling it in your pens and pasture is the best way to avoid this potential problem.

Breeding

Keep a breeding record on every doe. These records can help you plan ahead for the kidding dates and any special feeding or management needed at this time. It is also important to record any abnormal heat periods or other special conditions associated with reproduction.

Does are usually bred at 7 to 10 months of age. Earlier breeding will stunt the animals' growth, and it might interfere with normal development of their fetuses.

The normal breeding season for the pygmy goat is from late August to mid-March. Goats are seasonal breeders and usually won't breed at other times.

Estrus is the period when the doe will receive the buck. Usually this period lasts 2 to 3 days and is characterized by uneasiness, riding other animals, or standing for riding, shaking of the tail, frequent urination, and bleating. Conception is usually more successful on the second day of estrus.

The gestation period is the period from breeding to kidding. Normally, this period is from 145 to 155 days.

It's common for a doe to have two kids. Some does have three or four at one time.

Kidding

About 150 days after breeding, the doe will be ready to have her young. The udder will contain milk 3 to 4 days before kidding, and sometimes earlier. If the udder becomes painful to the doe, she may be milked.

The first milk after kidding (called *colostrum*) contains nutrients needed for cleaning out the digestive tract and Vitamin A to build resistances. It develops antibodies against disease, and it contains the necessary energy to give the young a good start.

Prepare your kidding pen by cleaning and disinfecting. Use fine bedding

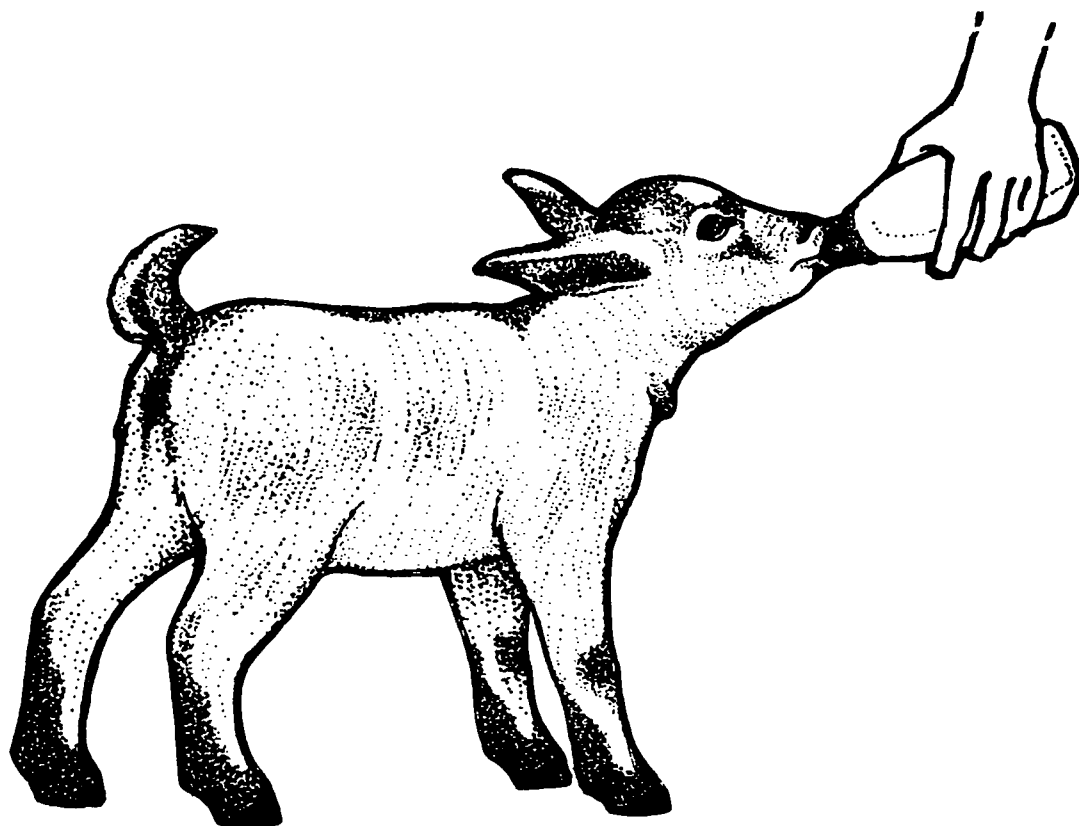
so the kids will not become entangled. Keep water pails high enough off the floor so the kids will not be dropped in water—and drown.

The day before kidding, substitute part of the grain with a warm wet bran mash. This is laxative and will clean out her digestive tract, thus making less competition for the room in the vaginal area. Pen the animal and leave her alone. (See figure 3.)

Symptoms of kidding are uneasiness, bleating, pawing, etc. After the mucous discharge lubricates the passage and the placental sac breaks, the kids are usually born within an hour. Check the doe at half-hour intervals and give her every chance to kid without assistance.

If she strains for over an hour and a half with little success, sometimes it helps to place bedding or a sack half filled with sawdust under her hind legs or rear end (if she is lying down), so her front end is downhill. This may help kids to get properly lined up for presentation.

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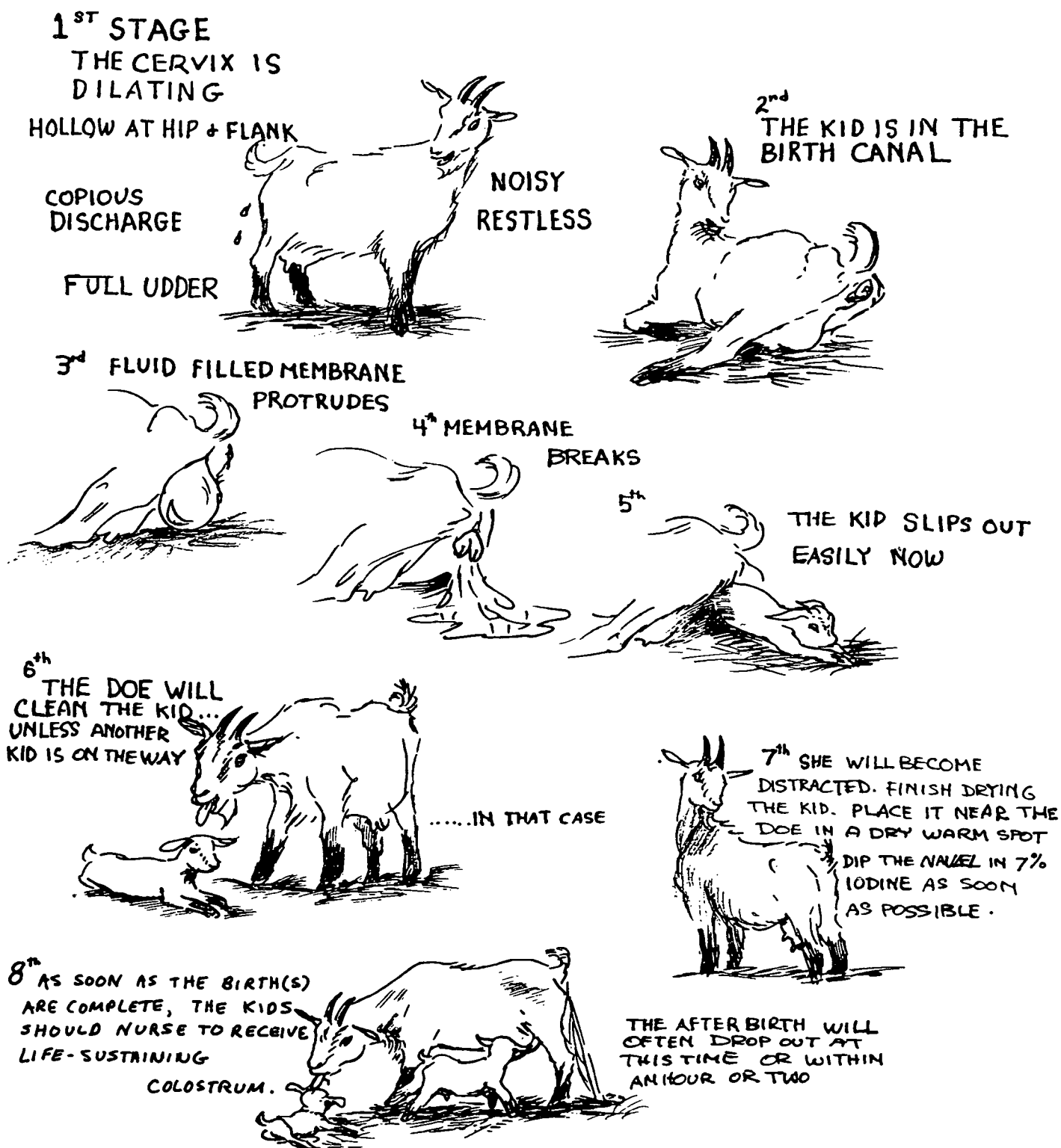


Figure 3.—The birth of a pygmy goat.

Guidelines for judging pygmy goats

	Does	Bucks	NPGA BREED STANDARD - IDEAL TRAITS
GENERAL APPEARANCE:	14	14	BALANCED & well-blended, showing style PROPORTIONS typically cobby: wide in relation to length & height Body MEASUREMENTS meet specifications for age group CONDITION optimal for age and frame of animal; HEALTH PERFECT
			Genetically HORNED (disbudding permitted)
HEAD & EXPRESSION:	10	12	EXPRESSION alert, animated HEAD typey, medium short; profile dished MUZZLE broad, full, rounded; nose short, wide, flat JAWS broad, strong, well muscled, symmetrically aligned BITE even: neither over- nor undershot EYES bright, set well apart, prominent but not protruding EARS firm, medium sized, alertly erect
COAT:	4	6	COAT dense, hair straight; medium long; abundant in bucks
BREED MARKINGS:	8	12	BREED SPECIFIC MARKINGS distinct: light accents on muzzle, forehead, ears, around eyes and tail; contrasting dark crown, dorsal stripe, cannons, hocks, hoofs OPTIONAL MARKINGS: light girth areas are acceptable
NECK:	3	5	NECK strong, full-throated, muscular, round, blending well into withers
SHOULDERS:	5	5	SHOULDERS well laid back and angulated, blades firmly attached WITHERS nearly level with spine
CHEST:	10	10	CHEST floor wide; forechest prominent; heart GIRTH large, full at elbows RIBS long, well sprung, wide apart
BARREL:	8	8	BARREL symmetrical, broad, deep, widening towards low-set flanks
BACK:	8	8	BACK strong, broad, straight; level along chine and loin
RUMP:	8	8	RUMP medium long, medium wide, neither level nor steep HIPS wide, nearly level with back THURLS high and wide apart; PINBONES well apart, prominent TAIL symmetrical, set and carried high
LEGS & FEET:	10	12	LEGS strong, well muscled, wide apart, squarely set FORELEGS straight, CANNON BONE short; elbows close to ribs HINDLEGS well angulated, short-hocked, parallel and aligned with hips; femur and tibia long, well muscled; stifle joint pronounced PASTERNS short, strong, resilient FEET well shaped, symmetrical; heels deep, soles level GAIT smooth, balanced, ground-covering and effortless
REPRODUCTIVE SYSTEM, BUCKS:			TESTICLES normal, equal in size; both fully descended
MAMMARY SYSTEM, BUCKS:			TEATS: Two single, normal, non-functional, devoid of multiple orifices; free of deformities
MAMMARY SYSTEM, DOES:	12		TEATS: cylindrical, symmetrically shaped and placed, milkable, functional free of deformities and obstructions devoid of multiple orifices UDDER functional, balanced, firm, elastic, rounded, small to medium sized, well attached: high in rear, well forward in front
BUCKS & DOES:	100	100	SEX CHARACTERISTICS pronounced, either masculine or feminine

National Pygmy Goat Association

DISQUALIFYING TRAITS

Non-conformity of size
Emaciation

Natural hornlessness

Roman nose

Face crooked
Disfiguring malocclusion

Total blindness
Ears pendulous, helicopter

Lacking distinct, breed-specific markings

Front cannon oversized

Failing to display two normal, fully descended testicles

Multiple and/or functional teats
Multiple orifices
Bifurcal teats

Non-functional, blind teats
Bifurcal teats

Non-functional, blind udder

Hermaphroditism

REASONING & EVALUATION OF FAULTS RANGING FROM MODERATE TO VERY SERIOUS

Consider degree of deviation from cobby (compact) type; also see NECK
See BREED STANDARD - BODY MEASUREMENTS chart

Evaluate extent of over- or under-conditioning
Check coat and skin condition, apparent health; hernias are **serious** to **very serious** fault

Polled pairs produce high percentage of hermaphrodites and infertile males

See: EYES; EARS; HEALTH

Long or level head is not true to Pygmy type - a **serious** fault

Scant, snikey foreface is not harmonious with breed type

Weak, misaligned jaws are poor feed processors; check general condition

In kids: undershot bites are common - **moderate** fault; overshot bites (rare) - **very serious**

In adults: misalignment is a **serious** fault; noticeably over-undershot - **very serious**

Eyes protruding, or set too far apart (or too close) **very seriously** disturb facial balance

Ear shape, size, and carriage greatly contribute to overall alert appearance

Coat too short and sparse provides poor insulation - a **moderate** fault; see HEALTH

Coat too long, curly, or silky **very seriously** contradicts breed type

Weak or missing markings, or markings other than those specified, detract from Pygmy type and may challenge breed identity: evaluate extent of detracting as **serious**, **very serious** or **disqualifying**

Weak, thin neck **very seriously** detracts from strong, balanced outline

Poorly articulated, poorly placed shoulders **seriously** handicap locomotion and stamina
High withers can mean poor shoulder layback and attachment - **moderate to serious** fault

Pinched, slab-sided, shallow chest, confined by

Ribs that are short and close **seriously** limit heart and lung capacity / size, i.e., longevity;

ribs overly sprung **seriously** handicap mobility / agility

Disproportionately narrow, shallow barrel **seriously** reduces capacity;

an overly rotund barrel can be a **serious** burden for the animal

A weak, swayed, or roached back **seriously** correlates with early aging; prevents efficient motion

Rump too short and steep, or too long, means less than optimal pelvic structure; **serious**

Steep, narrow hips and closely spaced thurls **seriously** reduce pelvic basin capacity for delivering kids

Wry, or broken tail is a **moderate**, mainly cosmetic fault

Considered separately and as a total assembly: any unsound component of limbs can **seriously** affect activity level, grazing / browsing, breeding / carrying ability, skeletal normality and gait, general health and longevity. Leg shape, placement, muscling, angulation; foot shape and symmetry, resiliency of pasterns, healthy joints, all contribute to the appearance, agility, endurance, and balance of a well-built animal.

Unbalanced, inefficient, labored, or stiff locomotion strains the entire system and is **very seriously** penalized

Cryptorchidism is an inherited trait

Deviations from normal set of teats may cause problems in hand milking and kid rearing; fault small, close, uneven teats **moderately**; multiple teats and multiple orifices **seriously**

Poorly attached udder breaks down; pendulous, lumpy, unbalanced udder can cause **serious** health problems (mastitis) and proneness to injury

Most kids will be born without assistance. The normal position is for the head to be on the front legs. Sometimes the hind end comes first. If the head is back, or one or both front legs are down, you will need to help.

If you assist, tie the doe's head to a wall ring or place the neck in a stanchion. Wash your arms and hands with warm, soapy water containing a mild disinfectant. Be sure your fingernails are short. Insert your hand and explore the position of the kids.

Don't pull on anything until the doe strains—and be careful that you know what you're pulling on. Be gentle. Guide the front legs and head toward the passage and let nature take its course.

Sometimes, old goats or animals in high condition seem to act as though they are about to kid, but they don't. Assist them by elevating the front feet. If they don't kid, cleanse your hand and check the birth canal. If your hand can enter, the doe should kid. Sometimes the cervix does not dilate, and a veterinarian's assistance is necessary.

The afterbirth will usually be passed in 30 minutes to 4 hours after the kids are born. If this does not happen within 6 hours, call your veterinarian.

It's good practice to dip the navels of newborn kids in a dilute (7%) iodine solution. Keep this solution in a large-mouth jar so that you can dip the cord clear to the kid's belly. This prevents undesirable organisms from entering the kid through the cord shortly after birth.

After kidding is over, the doe will appreciate a pail of warm water to replace lost body fluids. Allow her to rest. When she is hungry, give her hay and about $\frac{1}{3}$ to $\frac{1}{2}$ of her usual grain feed—warm bran mash is preferred. Watch her closely. Increase the grain slowly as she can handle it. It will usually take your doe 2 weeks to get back on full feed.

Tattooing and ear tagging for identification

Be sure your animals are properly marked for easy identification both at home and at shows. If you depend on records based on names (with no way to tie the names to the records in a positive manner), you may lose some sales. Never buy purebred goats from a breeder who doesn't have positive identification on the animals. He or she may be careless with pedigrees, too.

Tattooing. For identification, goats ordinarily are tattooed in one ear or the soft tissue alongside the tail. Tattooing is done with an instrument you can buy from livestock supply houses. It looks like a pair of pliers, and you insert numbers or letters into it. Each number is outlined with sharp, needlelike projections.

Before tattooing your animal, practice by "tattooing" a piece of paper or cardboard to be sure you print the correct number. Then use a cloth to clean the area to be tattooed (for example, the ear). Print the cleaned area with the number and rub tattoo ink into the holes with your finger.

Ear tagging. Most goat owners don't use ear tags for identifying their animals. They've seen a valuable but inquisitive animal catch the tag on a fence or brush and rip the ear, thus disfiguring it.

If you *do* tag your goats on the ear, be careful to place the tag about 1 inch from the head, on the top of the ear, where it can easily be read. Use either an ear punch or a self-piercing tag—preferably the ear punch because there is more room around the tag after healing, so the ear is not so sensitive.

Castration

If you have buck kids that you don't plan to keep for breeding, don't let them run with the herd beyond 2 to 4 months of age. Well-fed animals mature early, and they may breed the young females.

If you have older bucks that you plan to use for meat purposes, castrate them at an early age—or there will be a taint to the meat, and the meat will be less tender.

The earlier the male kids are castrated, the less shock to the animal. Get the job done as soon as the testicles

descend into the scrotum. This may vary from 7 days to 3 weeks of age.

When you plan to use cutting instruments or the elastrator, do the job before fly season and preferably before warm weather sets in. Animals to be castrated with a cutting instrument should not be excited (their hearts beat faster, and there may be more bleeding).

The instruments for castration, other than the knife, cost from \$16.50 to \$30.00. Check to see if your club could own these instruments jointly and lend them out as needed. This would save everybody money.

Elastrator. The elastrator is an instrument that looks like a pair of pliers. It expands a special rubber ring so you can place it around the scrotum above the testicles.

Sit down and hold the kid on your knees. Push the testicles into the scrotum by pressing on the belly wall with your left hand and slide the hand toward the scrotum. With your right hand, expand the ring, slip it over the testicles, but below the rudimentary teats.

Be sure both testicles are present before you release the ring. Glands will drop off in 10 days or 2 weeks. The animal will show discomfort for about an hour. This is a bloodless operation.

Emasculator. This is a heavy, long-handled, cord-crushing instrument. Place it above each testicle, but below the rudimentary teats. Crush each cord separately and leave the instrument on 10 to 15 seconds. Do the second cord below the first one. The scrotum or sac remains on the animal, but testicles dry up because the blood supply doesn't get to the glands.

This is a bloodless operation. It's safe to use in fly season, and the animal will show less shock than with the use of the elastrator.

You can use this instrument on old animals, but they will show more shock than younger animals (their cords and blood supply are further developed). There may be some animals that don't actually get castrated unless you use great care with the instrument—doublecheck a few weeks later.

The knife. This is the surest method, but it involves a small amount of blood. There seems to be less shock when a knife is used. Sanitize the lower ⅓ of the scrotum and the knife with a mild disinfectant.

Have someone sit down and hold the kid on the knees. Hold the kid on its back, with the legs secured by the hands of the holder. You cut off the lower ⅓ of the scrotum, exposing the two testicles.

With disinfected hands, draw each testicle out slowly, cord and all. If the animal is older than a month, scrape the cord with a dull knife until it is severed. There will be several drops of blood. If the animal is young, place it back with its mother in a clean, well-bedded pen to prevent infection and possibly tetanus.

You can use the knife on mature bucks, too. But don't scrape the cord off with them—use instead an instrument called the 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 and don't use a knife unless you practice good sanitation. Because there is more bleeding with older animals, it's safer to get a veterinarian to do their castration.

Grooming

Well fed, properly housed goats need to be groomed. Good grooming includes brushing frequently with a really stiff dog brush. A bath during warm weather helps to control fleas and lice. Animals with a heavy infestation of lice will become unhealthy and anemic. Their resistance to other infections will be lowered, and their coats will look awful.

For surer protection against lice, powder your animals twice a year (fall and spring) with a livestock dust that has either Sevin or Malathion as the active ingredient. Start sprinkling behind the ears, along the backbone to the tail. Work it in with your brush and let gravity do the rest.

Use chemicals and drugs carefully!

If you use chemicals and drugs to keep your animals healthy, be sure to use them carefully. Use these materials only under the supervision of an *experienced adult or a veterinarian*. Always read the label and carefully follow the directions.

Hoof trimming

Goats' hooves grow rapidly. They can become bent, cracked, or infected—and eventually cripple your animal—unless you trim them properly. Do this about once every 3 months.

The tool that you use is up to you. You may use a utility knife. Some people like small pruning shears. A small hand plane will help keep the hooves level. *Stop when you see pink!* Use iodine for minor cuts.

Figure 4 shows a side view and a bottom view of a correctly trimmed hoof.

Dehorning

Many kids can be dehorned at about 1 week old. Don't wait until a solid horn is evident, or treating may stunt horn growth and produce a disfigured horn. Get the job done before the fly season starts.

Mature goats can be dehorned, but this is probably a job for a veterinarian, who can use nerve blocks so the animal will not suffer. Usually a small wire saw is used. The bleeding is reduced because the saw blade closes off and crushes the ends of the blood vessels. Pine tar will help disinfect the area and keep the flies away. You can use special elastrator bands to dehorn goats.

Using an electric dehorning device. The end of the electrically heated dehorner should be from ¾ inch to 1 inch in diameter—preferably 1 inch for male kids. Plug the iron in and heat it to a cherry red. Restrain the kid and apply the iron to the horn spot for 10 to 15 seconds or until the area is a copper red. This should destroy the horn cells. Apply petroleum jelly to the spot and release the animal.

Chemical methods of dehorning. You can purchase potassium hydroxide in a stick form at the drug store. *Do not let children handle this material, and do not store it where children can handle it—serious burns are possible.*

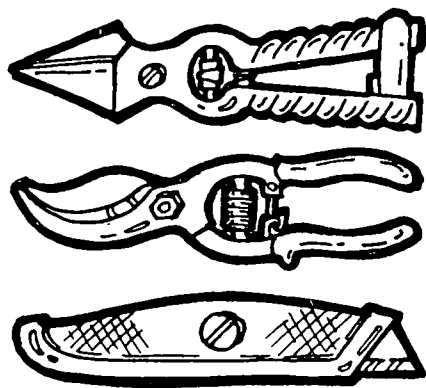
First, cut the hair from around the horn area. Wrap paper around the caustic stick to protect your hands. Dampen the stick by dipping the tip in water. Restrain the animal and apply the caustic stick with a circular motion until the horn tissue is burned off in a circle about 1 inch in diameter.

Usually, the area will appear pinkish white. There may be drainage from the area, so put petroleum jelly around the burned spot and down the side of the head so the face will not be burned.

Pen these goats separately for a day or so after the operation—or they may burn each other with the caustic on their treated areas. Don't let these treated goats nurse their mothers—they can easily burn their mothers' udders!

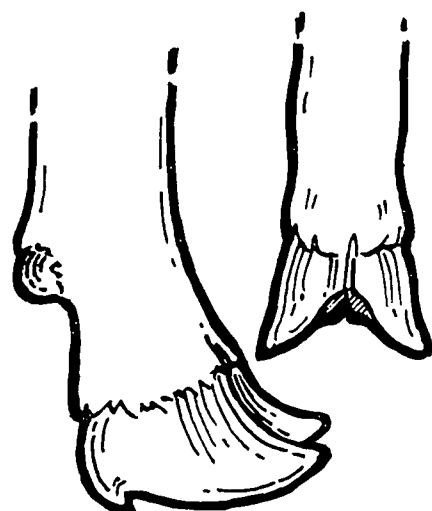
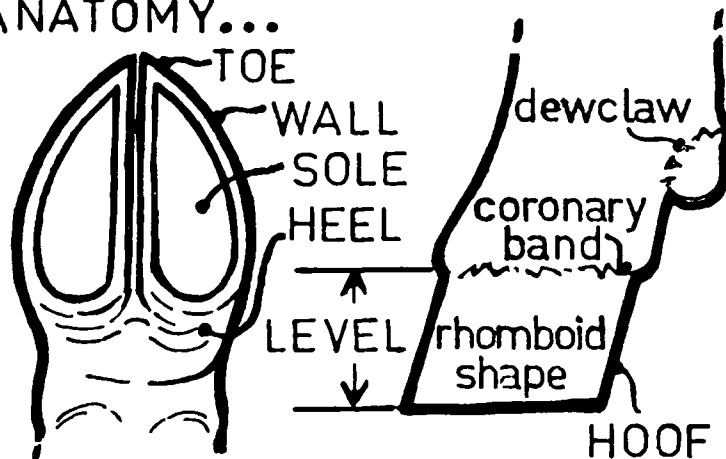
Dehorning paste. You can buy this paste from livestock supply houses. It's probably safer to use than the potassium hydroxide stick mentioned in the previous section. Here again, keep the treated animal separate from others for a day or two.

TOOLS...



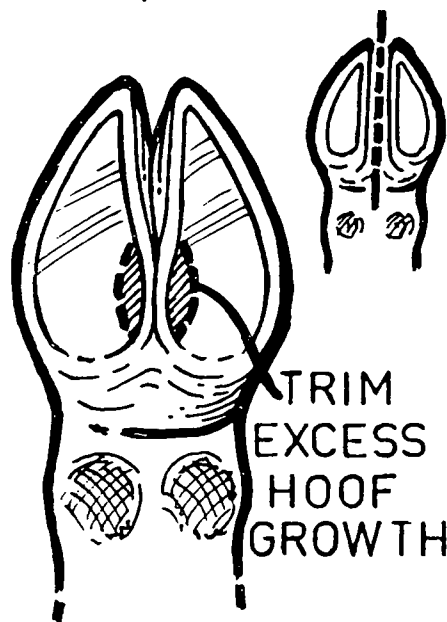
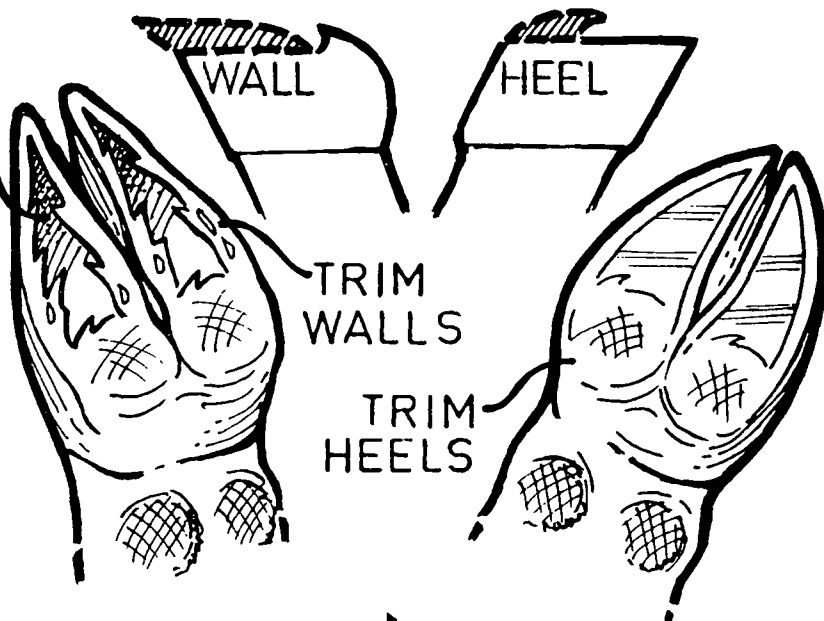
foot rot
shears
or
pruning
shears
and
utility
knife

ANATOMY...



OVERGROWN

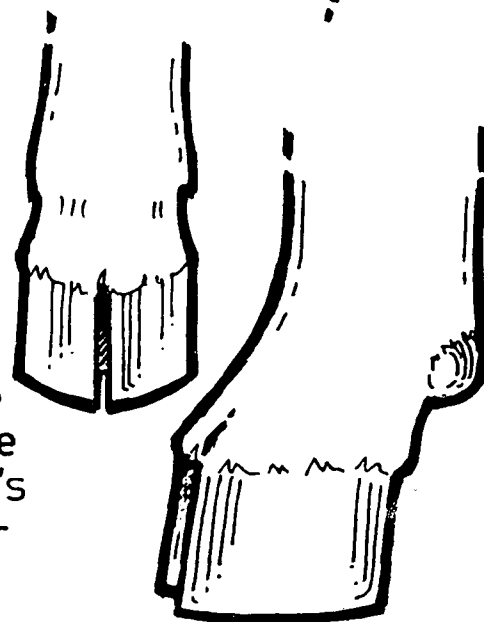
DIG
OUT
DIRT



if the hoofs
are trimmed
regularly
the job is
much easier

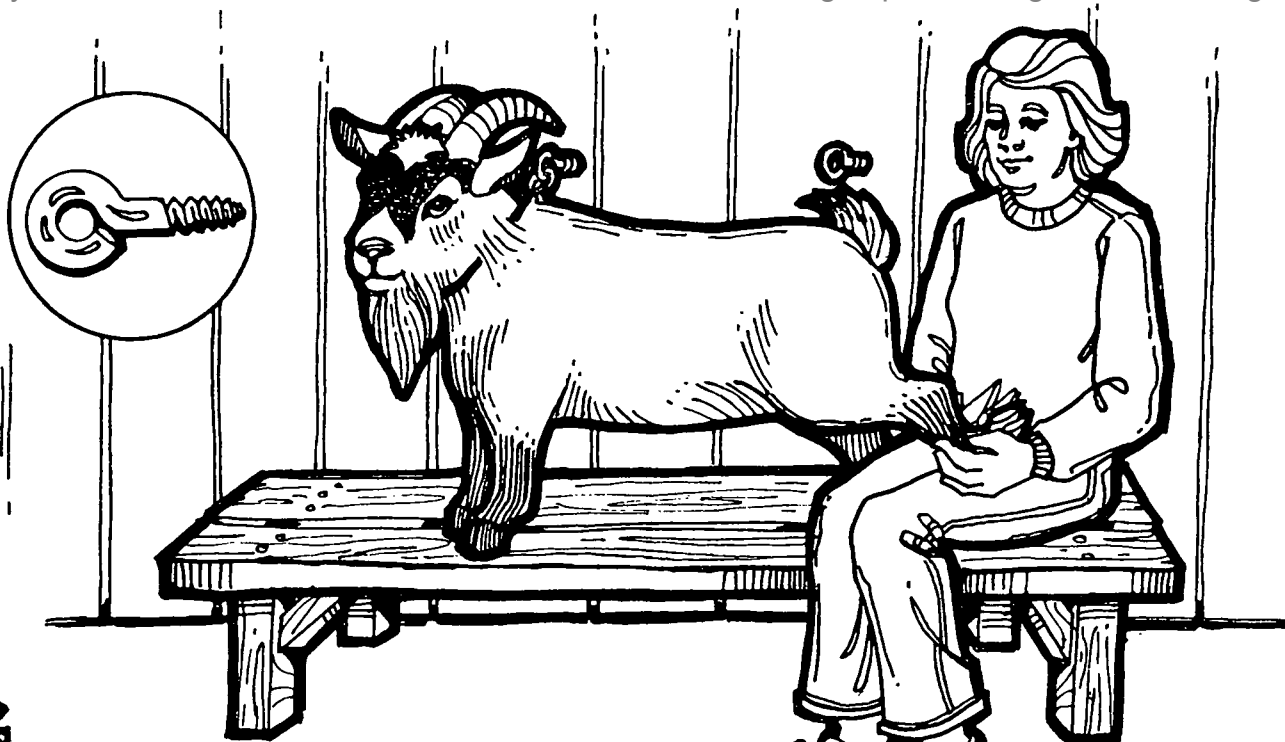


if the goat
bleeds use some
iodine and make
sure the animal's
tetanus booster
is up to date



PROPER TRIM

Figure 4.—The basics of hoof trimming (above). On the opposite page, good restraining procedures to use while you're trimming hooves.



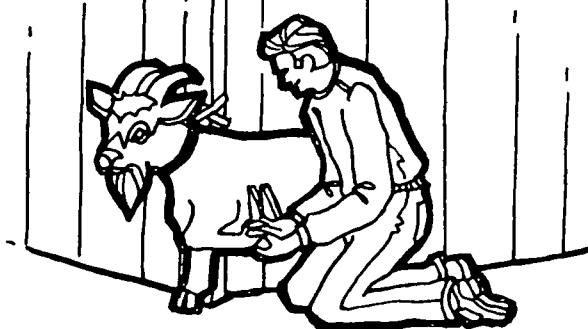
A BENCH WITH
TWO EYE BOLTS ALLOWS YOU
TO SIT AND SWITCH - OR YOU CAN...

HAVE A FRIEND HELP

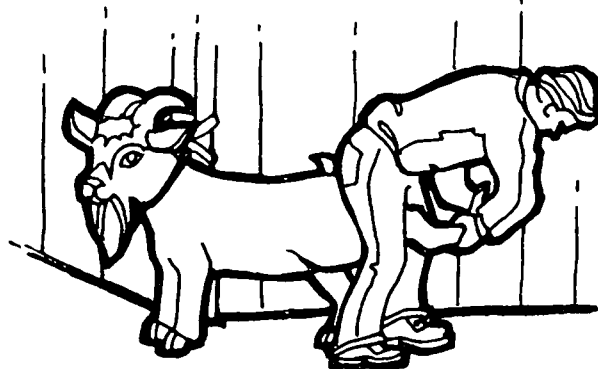
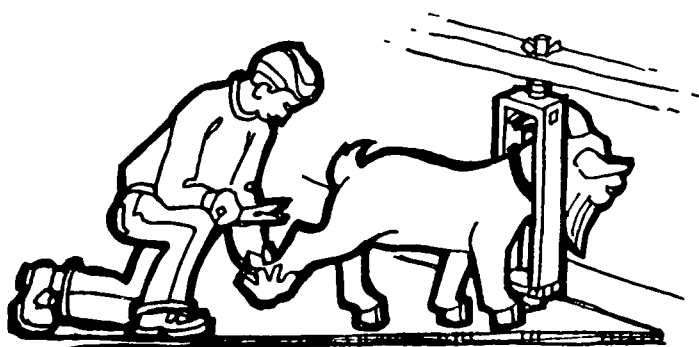
SQUEEZE AGAINST A WALL



USE A MILKING STANCHION



STRADDLE TO DO REAR



Health management

Prevention is the single most important issue regarding the health care of your pygmy goat. Be alert to the overall health of your animals. Signs of good health include a glossy hair coat, upright ears, bright eyes, a good appetite, firm droppings—and an active, alert, and attentive disposition. If you see any serious change, give it immediate attention.

It's a good practice to isolate new and returning animals from the rest of the herd for a minimum of 1 week. This will prevent the spread of possible disease. Safety in your pens, barns, and pastures will prevent injuries and a possible call to the veterinarian. Clean up the clutter, trash, broken objects, rotten wood, etc., from the area where your goats live.

Beyond these measures, correct feeding will certainly be the most important step to good goat health. Be sure your animals have:

- an ample supply of good, clean water,
- access to minerals, and
- proper amounts of grain and roughage (as indicated in the section on feeding, page 7).

Be sure to keep good health records on each animal. Include dates, problems, corrective action, and results.

Internal parasites

The first signs of parasitic infection are general unthriftiness, a rundown condition, and a rough hair coat. Watch for these other signs: loss of weight, poor appetite (or none at all), diarrhea (often present), and the various stages of anemia (paleness of the lips and tongue, mucous membrane around the eye).

Take a sample of droppings from each goat to your veterinarian for examination, to determine the type and degree of infestation. Treat according to your veterinarian's recommendations.

There are several good wormers on the market to control internal parasites—especially worms. Make sure the wormer you use is approved for pygmy goats. A regular, continuing program to prevent internal parasites will pay big dividends.

Lice

There are two types, those that attach themselves to the skin and suck the blood, and biting lice that live on scales, hair fibers, and skin debris. Lice spend their entire life cycle on the goat.

You can treat affected animals for lice by either spraying or dusting—spraying is more effective (read again the section on grooming, page 13). There is also an injectable product available on prescription from your veterinarian.

Mange

A minute, spindle-shaped mite is responsible for a disease termed *demodetic mange* in goats. The mites live deep in the skin where they give rise to soft oval blebs, which range from 1/8 inch to 1 inch in diameter.

These are usually smooth-surfaced, but they may rupture. If they do, bacteria can invade the skin, causing a secondary infection that produces small abscesses. Blebs are most commonly found under the legs, but they may occur along the neck, legs, face, or flanks. Serious symptoms are rarely present before 1 year of age.

As soon as you note these blebs, cut them carefully in cross pattern with a sharp knife, squeeze out the contents, and paint the cavity with Formalin or iodine.

Such treatment doesn't guarantee a cure. However, it prevents an increase in the size of the incised blebs, and it may cut down the number of mites that transfer to other animals. Fortunately, demodetic mange poses no special economic threat.

Mastitis

This inflammation of the udder is caused by various types of bacteria. Contributing factors include failure to keep bedding clean, bruises from nursing kids, cuts or scratches on the udder or teats, or infectious discharges from the uterus that may run down over the bag.

The first symptoms you notice might be a doe's straddling walk and failure of the kid to nurse. The udder is usually hard, hot, and swollen, and you may see flecks or clots in the milk.

Isolate the animal from the herd and apply hot packs. Use towels soaked in epsom salts, as hot as your hand can stand. Repeat this four to five times a day. After soaking, carefully dry the udder and then milk it out. Next, gently massage the udder with camphorated oil. Call your veterinarian. He or she may also suggest infusing the udder with antibiotics.

Foot rot

This is infrequent in goats. But it may occur in animals that spend much of their time in wet, unsanitary yards or barns—or that stand in wet bedding constantly. The first symptoms you'll note will be lameness, then a swelling of the foot, which becomes hot to the touch.

In treating, pare away all dead tissue with a knife and soak the foot in an appropriate disinfectant. Bacteria are usually involved, and your veterinarian may recommend the use of one of the broad-spectrum antibiotics as a supplementary treatment.

Brucellosis

This infection in goats is caused by the germ, *Brucella melitensis*. The symptoms are abortion, lameness, inflammation of the udder, and reduced milk flow. Test all your goats for this infection—it can cause a serious disease in humans called undulant fever.

A human can contract the disease not only from the unpasteurized milk, but also from assisting at kidding time if the disease is present. The organism can gain entrance through a break in the skin.

Follow state and local regulations about pasteurizing milk. There have been very few cases of this disease in recent years in goats in the United States, but it's wise to blood-test your goats, anyway.

Bloat

Bloating is an accumulation of excessive amounts of gas in the rumen. This may result from overeating tender, young, high-moisture-content legume pasture or eating lush, green forage that is still wet with dew. Occasionally bloating may follow the choking caused by eating apples, corncoobs, or the like.

Bloat causes a swelling in the triangle formed by the left hip bone, the end of the rib cage, and the top of the loin. The animal will show distress, lying down and rising, kicking at the abdomen, slobbering, and grunting.

You can prevent bloat by making sure that your animals have a good feed of dry hay before you turn them out on a moist, young pasture. Use a grass-legume pasture rather than straight legumes.

You need your veterinarian for this treatment, which introduces anti-ferments through a stomach tube or drench. Animals die very suddenly with bloat—don't wait before you call for assistance!

Diarrhea

In kids, bacterial scours occur usually during the first few days of life. It may result from chilling, an unsanitary environment, or faulty feeding practices. The signs include liquid feces, weakness, and depression. Unless such kids are treated, death may occur within 24 hours.

The newborn kid should always receive colostrum milk for the first 2 or 3 days. If hand feeding follows, strict cleanliness of equipment is necessary—even sterilizing feeding containers whenever a problem exists.

At least three feedings a day are recommended, with either milk or a milk replacer. A milk replacer low in lactose and containing antibiotics may help prevent the occurrence of dietary scours.

If such scouring begins, skip a feeding and dilute the milk replacer for the next few feedings. Then, if the diarrhea persists, consult your veterinarian about using a suitable medication.

In older animals, diarrhea may be caused by intestinal parasites, coccidiosis, John's disease, or other factors—such as a sudden shift from dry feed to lush green pasture. Gradual changes in the feeding program are always recommended. Scouring may appear in grazing animals after the first heavy frost, but it usually fades away in a short time.

Ketosis

This metabolic disease occurs just before kidding, or 2 to 4 weeks afterward. The first symptoms are twitching of the ears, muscular spasms, and loss of appetite. As it continues, coma develops—with rapid, labored breathing, frequent urinating, and finally death.

The causes seem to include an unbalanced diet, sudden changes in the diet, or underfeeding during advanced pregnancy. Treatment with intravenous glucose and intestinal stimulants is of some use, but prevention is the real answer.

You should give your does a diet containing good green alfalfa or legume hay and at least a half pound of grain containing corn (see the section on feeding, page 7).

Feed your does at regular hours and don't make sudden changes in their diet. A moderate amount of exercise will tend to keep their bodies toned up and your animals from going off feed.

Abscess

This is a common problem in goats in many areas of the country. Abscesses are caused by the bacteria *Corynebacterium pseudotuberculosis* (cor-ine-bac-ter-e-um, su-doe-tu-ber-cu-losis). They appear around the head and on the neck most commonly.

The disease is spread from infected animals and from the environment through small punctures in the skin caused by sharp (even pinpoint) objects and vegetation. Take special care to avoid infected animals at fairs, to protect your goat.

If abscesses do occur on your goat, consult your veterinarian for recommended treatment. If the abscess should break open, clean thoroughly with iodine, flush daily, and keep the infected goat away from others. Keep flies away from the abscess site with a good fly-repellent spray.

White muscle disease

Young goats are subject to this disease, caused by a selenium deficiency in the diet. The level of selenium will vary from area to area in pastures and feed. Ask your veterinarian or Extension agent if there's a need to add selenium supplements to rations in *your* area.

A single shot of selenium/vitamin E solution is generally required by newborn kids. If your area is severely deficient, all your animals will need selenium treatment year-round, in their feed or by injection.

White muscle disease can be confirmed only by examination after death. However, you can uncover a deficiency that may *lead* to the disease by testing a blood sample from your goat. The sample is tested for selenium deficiency. Treatment may begin as soon as results are confirmed.

Training and showing your goat

Training

Work with your pygmy goat until it's gentle and will lead or stand as you want it to. A few minutes a day for several weeks is better than several hours a day just before the show. Teach your animal to lead easily and to walk with its head up. Teach it to stop, to stand quietly, and to take a few steps backward when you push back on the collar and on its shoulder with your hand.

Don't make sudden moves, jerk, or abuse your goat. Hold it so that it can't get away. Teach your goat to stand quietly when someone handles it.

Fitting for show

Wash your animal, paying close attention to under the tail, hooves, and in the ears.

Pygmy goats are not clipped for show. They're judged on the length of their hair and the condition of the hair. You'll only need to clip inside the ears with a close blade.

Trim the feet so the animal stands straight on its legs. Trim as often as necessary, usually once every 6 weeks and several days before the show.

Final preparations. Before taking your goat into the show ring, brush it down carefully. Remove all straw. Clean the ears, nostrils, and feet with a cloth. Be ready when your class is called.

Showing

Pygmy goats in 4-H are shown with a leather collar or neck chain. Bucks are not shown in 4-H. Lead your goat slowly, holding the collar with your right hand, and walk forward. If the judge is on the outside of the circle, lead with your left hand. Always lead from the side of your goat that is away from the judge.

Lead in a clockwise direction or follow the judge's directions. Don't crowd the goat ahead of you. Don't move so slowly that the other exhibitors crowd up behind you.

Keep your eye on the judge so that you can stop, pose your goat, or move as he or she directs. When you stop, take the collar in your left hand. You can pose the goat with your right hand. When your goat is properly posed with feet set squarely, head up and alert, let it stand naturally. Don't fuss with it more than you need to.

As the judge walks around to the left of your goat, step a little to the front so that he or she can get a good side view. Then, as the judge walks on around in front of your goat, step back quietly to the left side so that she or he can get a good front view.

If your animal stands well, let it stand in that position. Show your animal to its best advantage.

Always pay attention to your goat and to the position of the judge. Continue showing all the time that you are in the ring.

Wherever your goat may place, be courteous and pleasant. Pay careful attention to the reasons the judge gives.

Wait until your name is called or the class is dismissed before leaving the show ring.

Your own grooming

Be sure your hands, face, fingernails, clothes, and shoes are clean.

Have your clothes pressed, shirt tail in, shoes tied, and your hair combed.

Check to see if white clothes are required.

In 4-H, we always do our best. We learn from experiences so we can "Make the Best Better."



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Extension's 4-H/Youth program assists young people, their families, and adult volunteers to become productive and self-directing by developing their practical skills and knowledge. Professionals and volunteers together provide educational projects and activities in animal science, plant science, home economics, engineering, natural resources, and expressive arts.

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