



Skill-a-Thon

STUDY GUIDE



abga.org/jabga



JUNIOR AMERICAN BOER GOAT ASSOCIATION

Skill-a-thon Study Guide

This packet is to assist you in studying for the skill-a-thon contest at the JABGA Regional shows and the National show. We suggest you familiarize yourself with the Breed Standards and the Rules and Regulations. You should also read the JABGA Bylaws. The questions on the official test will be true or false, multiple choice, and matching.

1. Name three (3) external parasites.
2. Do goats need to be registered with ABGA to show them in ABGA & JABGA sanctioned shows?
3. What is a newborn goat called?
4. What do udders on a doe produce?
5. What ears should be tattooed?
6. How many regions does the JABGA have?
7. What is kidding? Visit our website at abga.org to find our Rules & Regulations, Bylaws, and Breed Standards.
8. How many knees does a Boer goat have?
9. Name one (1) fault according to our Breed Standards.
10. Name one (1) disqualification according to our Breed Standards.
11. Describe a Fish Teat.
12. Describe a correct bite according to our Breed Standards.
13. Name different ways a goat can be bred.
14. What is the standard gestation length?
15. How does a goat get Foot Rot?
16. How do you transfer a goat with ABGA from one owner to another?
17. What is proper etiquette in the show ring?
18. How can you prevent parasites?
19. What is phosphorus and is it toxic for goats?
20. What is required for Ennoblement of a Buck?
21. What is a Live Coverage Service Memo?
22. What is the traditional color description of a Boer goat?
23. Who can earn a Sire of Merit award?
24. What is a normal heart rate for an adult goat? A quorum, for the transaction of business by the JABGA Board, shall have the presence of how many directors?

Visit our website at abga.org to find our Rules & Regulations, Bylaws, and Breed Standards.

HISTORY

The Boer Goat as found in the country today consists of a mixture of blood, principally imported from the east and India. The Milk goat breeds also have an influence on the development of the Boer goat, as can still be seen today in certain characteristics, for example, polled in certain types, and high milk production.

Kinds

It is very difficult to classify various types of Boer goats since there is a great variation in type through crossbreeding and degeneration. The various types can more or less be classified as follows:

1. The ordinary Boer goat is a short-hair goat mostly found among European farmers. This is a goat with fairly good conformation and fairly good characteristics. Colors commonly found are "briekwa, gray, dark brown, and white with occasional brown heads or necks. This type of goat can still be improved upon regarding conformation, quick growth, and uniformity.
2. The long-hair goat, which is a less desirable type, is a bigger, heavier goat which is only ready for market as slaughter stock when matured. the meat is coarser, and the skin is worthless due to the long hair.
3. The polled Boer goat is a short-hair goat without horns and with less desired conformation. This goat originated from crossbreeding with the ordinary Boer goat and milk goats.
4. The native goat is high, and the legs are weak in conformation, and its color varies according to the choice of the tribe.

The improved or ennobled Boer goat featured by its very deserving characteristics, such as good conformation, fast growing kids, high fertility, uniformity regarding color and type, hardiness and adaptability. It is to the credit of a number of farsighted Boer goat breeders in the Eastern Cape, Somerset East and vicinity, that this desired type of Boer goat got its origin.

About 50 years ago a few breeders started with a definite breeding policy, and with strict selection, tried to breed a better type of Boer goat. Their efforts succeeded and they have bred a Boer goat very near to the ideal. The late Mr. TB Jordaan wrote as follows: "In approximately 1918 my father, the late WG Jordaan, bought fifteen ewes from Mrs. Van De Venter of the farm, Slot in the Somerset East district. These were white smooth coated ewes with light red heads. He then bought a ram from the late Mr. IB Van Heerden of Kaajplaas, Cradock. This was an outstanding big red dappled goat, with a strong constitution. This ram and these ewes were the foundation for the present Buffelsfontein Boer goat stud."

Distributions

The Boer goat population of the Republic of South Africa and the independent black states remained constant in the region of 5 million for the past 20 years.

The Boer goat is well spread throughout the four provinces of the Republic, though certain parts are more suitable for goat farming where bushes grow higher and thicker in rough mountainous parts to which other small stock is not well adapted.



The Cape Province lodges more than half of the Boer goat population of the Republic, due to veld types and topography which lends itself very favorably to goat farming. In high rainfall areas in grassveld districts, such as the Orange Free State, the goat numbers are small.

The forming of the Boer Goat Breeders' Association of South Africa at Somerset East on July 4, 1959 was undoubtedly a climax in the history of the Association. This step provided in the long-felt need to have an authorized body to improve and protect the interests of the Boer goat breeder in South Africa.

Now that the breeders were united into one organized body, they were an association capable of following a uniform breeding policy and selection program. In particular, they could advise breeders with less knowledge in the use of desired types of breeding animals, and therefore help improve the Boer goat as a breed. At the inaugural meeting a committee was appointed to be responsible for the drafting of a Constitution and Breed Standards.

HEALTH

Provided by the South Carolina Meat Goat Association

Goat Temperature

A goat's normal temperature is 102°F to 103°F. If you have a sick goat, the first thing you should do is take its temperature. If the temperature is above normal, there's probably an infection. Antibiotics might help. Below normal temperature could mean a critically ill animal. If the temperature is normal, that's important information too.

Be sure you take your goat's temperature before calling the veterinarian for advice about a sick goat. Your vet will probably ask what the goat's temperature is.

"Off feed" and Grinding Teeth

Eating should be the primary interest in any goat's life. If the goat stops eating normally, the animal is probably sick. Going "off feed" is one of the few ways a goat can tell you it does not feel well.

Teeth grinding is also a sign of illness in goats. You can easily hear this unpleasant noise and can tell that the goat is uncomfortable and needs your attention.

Skin Problems

Roundish, hairless patches on a goat's body are often caused by a ringworm fungus. Clean the skin with a mild antiseptic soap and apply Fungisan Liquid, a mixture of equal parts of glycerin and tincture of iodine, or household bleach diluted 1 part in 10 parts water daily.

Abscesses

Contagious abscesses caused by *Corynebacterium Ovis* are spread by contact with pus from a draining "lump." If the bacteria get into lymph nodes, the goat may develop new abscesses for months or years to come. Abscesses can also grow on internal organs and kill the goat. Eternal abscesses are ugly, but the goat may stay in good health otherwise. Occasional abscesses will develop inside the udder: milk should not be used for humans.

There is no cure. A good program of cleaning the ripe abscess and isolating the goat can reduce the incidence of abscesses in the herd. Autogenous vaccines have worked well for some breeders but may perform best if the animals are vaccinated three or four times a year. Abscesses may also be caused by imbedded foreign particles or small cuts infected with Staphylococcus, C, pyogenes, etc. These abscesses are not a contagious herd problem.

Worms Are Common

Worms cause many problems in goat herds. Regular worming is usually necessary. A veterinarian can check fecal samples to tell you exactly what kinds of worms your goats have and what wormers you should be using. You may need to use a different wormer each time you worm to keep these parasites under control.

Coccidiosis Kills Kids

Coccidiosis is much more common in goat herds than many breeders or their veterinarians may realize. Coccidiosis often causes persistent scours in kids. Adult goats may also carry heavy coccidia infestations. Have your vet check a fecal sample microscopically to find out if your goats have "cocci."

Routine Shots for Goats

Vaccinations against tetanus and enterotoxaemia are widely used by goat breeders. Selenium (Bo-Se), available from your vet, may be given in herds where this mineral is deficient. Injections of Vitamins A & D are often used if the goats have problems with contagious abscesses, an autogenous vaccine can be prepared from material collected from your herd. It can help control the abscess problems and seems to work best if the animals are vaccinated every four months. Chlamydia has caused abortions, arthritis, and pneumonia in goat herds. Some breeders are using an experimental chlamydia vaccine from Fort Dodge Labs with good results. Some East Coast breeders use a Corynebacterium Pasteurella vaccine to stop respiratory and diarrhea problems in their kids.

Your veterinarian may suggest other vaccinations (such as leptospirosis) which you should use because of specific problems with goats or other livestock in your area.

Causes of Abortion

Abortions are common in some goat herds. They are usually caused by an infectious organism such as chlamydia that caused may first-freshening does to abort or give birth prematurely, while older does are immune. Salmonella, toxoplasmosis, vibriosis, and other organisms have also been suspected in goat abortions. Severe butting, which may happen when a new doe is introduced into a herd, can also cause abortions.

Pneumonia

Goats are very susceptible to pneumonia and respiratory problems. They need shelter from rain and protection from drafts, but the wrong kind of shelter can be bad. Barns that are poorly ventilated with a strong ammonia odor in the air and damp bedding, are unhealthy for goats. The viruses that cause pneumonia spread rapidly in such a setting.

Brucellosis and Tuberculosis



The U.S. Animal Health Association has recommended that it is no longer necessary to test goats for brucellosis in the United States. They feel the U.S. is free from *B. melitensis*, which infects goats. There have been no cases of brucellosis in goats for many years, although the disease is known in cattle, hogs, and even dogs.

Tuberculosis is all but unknown in goats, also. Testing is still recommended in areas which are not TB-free, but this disease is not usually a goat health problem. Just to be safe, most goat owners test for TB and brucellosis regularly, especially if the milk is to be used for human consumption/

Soremouth

This highly contagious disease causes ugly sores on the mouth area of goats. Make sure goats keep eating. When they recover, they will have lifetime immunity. Vaccination is not recommended unless you have the disease in your herd because the vaccine is "live" (it will infect your premises). Vaccination program (when followed rigorously) has helped clean up herds with soremouth.

If the virus gets into a cut on your hand, you too will probably get soremouth, so protect yourself. Also, don't let infected kids nurse does; the udders may get infected, with painful results

Simple Goat Due-Date Estimator

To determine the due date, take the breeding date and subtract the number indicated in the table. For example, if bred July 4, the doe will kid December 1. If bred November 10, the doe will be due April 9. This is based on 150 days.

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Bred	Due	Bred	Due
Bred in July	Due December -3	Bred January	Due June -1
Bred in August	Due January -3	Bred February	Due July -0
Bred in September	Due February -3	Bred March	Due August -3
Bred in October	Due March -1	Bred April	Due September -3
Bred in November	Due April -1	Bred May	Due October -3
Bred in December	Due May -1	Bred June	Due November -3

BASIC MEAT GOAT FACTS

Author: JM Luginbuhl | Extension Specialist (Goats & Forage Systems) | Crop and Soil Sciences

Original Article: [Basic Meat Goat Facts | NC State Extension Publications \(ncsu.edu\)](#)

Reproductive Aspects

Female

- Age of puberty 7-10 months
- Breeding weight 60-75% of adult weight
- Estrous cycle
 - Length 18-22 days
 - Duration 12-36 hours
 - Signs Tail wagging, mounting, bleating
- Ovulation 12 to 36 hrs from onset of standing heat
- Gestation length 146-155 days
- Breeding season August – January
- Seasonal anestrous February – July
- Buck effect on estrous Positive

Male

- Age of puberty 4-8 months
- Breeding age 8-10 months
- Breeding season All year
- Breeding ratio 1 buck: 20 to 30 does

Physiological Data

- Temperature 101.7-104.5 F
- Heart rate 70-80/minute
- Respiration rate 12-15/minute
- Ruminal movements 1-1.5/minute

Rules for Goat Health

- Provide proper housing
- Practice good sanitation
- Provide adequate nutrition
- Provide clean water
- Observe how much feed (hay, minerals, concentrate) is left over
- Observe your animals daily
- Observe the feces of your animals
- Clean pastures and exercise lots
- Become familiar with the common diseases
- Investigate the source of strange smells
- Use your veterinarian for diagnosis



A Healthy Goat

- Eats well
- Chews its cud
- Has a shiny coat
- Has strong legs and feet
- Is sociable
- Has bright and clear eyes

Signs of Illness

- Off feed, off water
- No sign of cud chewing
- Standing apart from group
- Rough hair coat
- Abnormal temperature
- Heavy mucous in nose and mouth
- Diarrhea
- Runny eyes
- Limping
- Hair falling out
- Swelling on any part of body
- Pale mucosa of eyes and mouth

Purchase Animals

Upon arrival on farm

- Isolate animals for a month
- Vaccinate
- Take fecal samples, have them analyzed, treat goats with the 3 dewormers of different families, take another fecal sample 12 days later to confirm absence of eggs
- Test for certain diseases (check with your veterinarian)
- Coccidiosis control program
- Identification tag
- Hoof trimming, other

Herd Health Practices

Vaccination program

If possible, always weigh animals prior to vaccination to 1) calculate and inject the correct dosage of the vaccine and 2) assess body condition

- Enterotoxemia and tetanus - Clostridium perfringens types C, D + Tetanus Toxoid in one vaccine
- Adult males - Once a year
- Breeding females - 4 to 6 wk before breeding, then 4 to 6 wk before kidding
- Kids - Week 8, then booster on week 12

Deworming program

If possible, always weigh animals prior to deworming to **1)** calculate and inject or drench the correct dosage of the dewormer and **2)** assess body condition. **3)** Administer all drugs orally: pour-ons drugs applied as such are poorly absorbed. **4)** Underdosing of goats because of failure to weigh the animals or because of underestimating their live weight is a very common but costly mistake because this may lead to faster parasite resistance to dewormers. Therefore, determine the dose according to the heaviest animal in the group. On the other hand, overdosing of certain dewormers can cause health problems. **4)** Goats metabolize drugs much more rapidly than other species of livestock and require a higher dosage. **RULE OF THUMB: goats should be given twice the dose for sheep or cattle. EXCEPTION: goats should be given 1.5 the dose for sheep or cattle when using Levamisole (Levasol and Tramisol).** **5)** Administer all drugs orally: pour-ons drugs applied as such are poorly absorbed. **6)** If deworming animals during pregnancy, before kidding, and during lactation, make sure that the dewormer used is safe for pregnant does. **Oxfendazole (Synanthic) should not be used in pregnant or lactating goats. Albendazole (Valbazen) should not be used during the first third of pregnancy.** **7)** Natural immunity and resilience wanes following the time of kidding (also called the periparturient period). This means that even the resistant does can become susceptible to parasites during this period. **8)** Kids and pregnant does are more susceptible to parasite burdens.

Become familiar with the FAMACHA system which is a new method of selective deworming. The FAMACHA system is based on the level of anemia of an animal by comparing the color of the lower mucus membrane of the eye to a colored chart. Anemic animals will have a pale color, whereas healthy animals will have a red color. The advantages of using the FAMACHA system include decreased number of treated animals, slower resistance to dewormers, selection of more resistant animals, identification of anthelmintic resistance, and decreased costs because only animals that need treatment are treated. The FAMACHA system should be used with good management and alternative means of controlling parasites such as alternative forages, good nutrition, sound pasture management, and exposing goats to browse type forages.

All North Carolina cooperative extension livestock agents have been trained in the FAMACHA system. Enquire when the next training will take place in your county. A FAMACHA card and educational materials are available upon completion of the training.

Coccidiosis control

Coccidiosis usually strikes young animals during periods of stress such as weaning. Level of control depends on the level of infestation

At weaning

- Coccidiostat drench and/or - Coccidiostat in water tank (4 ounces in 25 gallons of water)
- At other times (if necessary) - Mineral with Bovatec - Decoquate in feed

At other times (if necessary)

- Mineral with Bovatec
- Decoquate in feed

Kid Health Practice

At birth

- Dip navel in iodine
- Kids should ingest 10% of their live weight in colostrum during first 12 to 24 hours of life.
- Colostrum should be ingested or bottle-fed (in case of weak kids) as soon as kids have a suckling reflex. In cases of extremely weak kids, they should be tube-fed. It is very important to make sure that the tube is inserted into the esophagus (you should be able to see the tube go down as it is inserted). The producer must be certain that all newborn kids get colostrum soon after birth (within the first hour after birth, and certainly within the first 6 hours) because the percentage of antibodies found in colostrum decreases rapidly after parturition.

Castration

- Elastrator (method of choice: bloodless, less pain)
The question is: why castrate if you will sell your buck kids for meat at 4 to 5 months of age? However, if not castrated, buck kids should be separated from doe kids at weaning, otherwise some unplanned breeding may occur.

Flushing

Feeding strategy to increase ovulation rate

- Starting **3-4 weeks before the breeding season, and throughout the breeding season**, increase the plane of nutrition of does to be bred. Overly conditioned and fat does will not respond to flushing.
 - Switch does to high quality pasture or
 - Supplement does with 1/2 lb cracked corn or 1/2 lb whole cottonseed/head/day.

After Breeding

To insure proper embryo development

- During the first month of pregnancy
 - Keep the plane of nutrition similar to that of flushing period

Important Production Traits

- Adaptability
 - Ability to survive in given environment
 - Ability to reproduce in given environment
 - Is a lowly heritable trait
- Growth Rate
 - Pre-weaning gain
 - Post-weaning gain
- Reproduction
 - Conception rate
 - Kidding or prolificacy rate
 - Non-seasonality
- Carcass characteristics
 - Dressing percent
 - Lean:fat:bone
 - Muscle distribution

Body Condition Score

- To monitor and fine tune nutrition program
- To "head off" parasite problem
- Visual evaluation is not adequate, has to touch and feel animal
- Areas to be monitored
 - Tail head
 - Pins
 - Edge of loin
 - Back bone
 - Ribs
 - Hocks
 - Shoulder
 - Longissimus dorsi
- Scale
 - Thin 1 to 3
 - Moderate 4 to 6
 - Fat 7 to 9
- Recommendations
 - End of pregnancy 5 to 6
 - Start of breeding season 5 to 6
 - Animals should never have a body condition score of 1 to 3
 - Pregnant does should not have a body condition score of 7 or above toward the end of pregnancy because of the risk of pregnancy toxemia
 - A body condition score of 5 to 6 at kidding should not drop off too quickly during early lactation

Fencing

Perimeter Fence

- **Smooth high-tensile electrified wire**
 - At least 42 inches tall
 - 6 to 8 inches near the ground
 - 8 to 12 inches at the top strands
 - Example (inches from the ground): 6 - 14 - 22 - 32 - 42 - (52)

Perimeter Fence

- **Woven wire (6" X 6")**
 - Effective
 - Costs at least twice as much as 5 strands of smooth electrified wire
 - Horned goats can get caught
 - Place an electric wire offset about 9 inches from the woven wire fence and about 12 to 15 inches from the ground
 - Reduces control of forage growth at fence line
- **Woven wire (6" X 12")**
 - Effective
 - Cheaper
 - Horned goats usually do not get caught
- **Interior Fences**
 - Two to three strands of wires (braided or tape) with tread-in posts
 - Electronet

Grazing Management

In a pasture situation, goats are “top down” grazers. They start to eat seedheads or the top of the canopy and progressively take the forage down. This behavior results in uniform grazing. Goats do not like to graze close to the ground. Grazing goats have been observed to **1)** select grass over clover, **2)** prefer browse over herbaceous plants, **3)** graze along fence lines before grazing the center of a pasture, **4)** refuse to graze forage that has been trampled and soiled. These observations have been put to use in the grazing management of goats: it is preferable to give them a daily allowance of forage and to move the fence accordingly rather than to let them roam freely in a large pasture. This type of management, called control grazing, was developed in Europe, and is implemented very successfully in New Zealand and numerous other parts of the world. Control grazing results in better animal performance, higher stocking rates, and increased pasture productivity.

So, You Want to Get in The Goat Business

Are you really, really ready?

- Are your fences, pens, chutes goat proof
- Is your grazing land adequate
- Do you have sufficient supplemental feed on hand
- Is your predator controller in place
- In your medicine cabinet, do you have
 - Dewormer
 - Vaccines
 - Iodine
 - Antibiotic ointment
 - Insecticidal powder
 - Thermometer
 - Stomach tube
 - Hoof trimmers
- Do you know the address and phone number of your county extension office?
- Do you the names of your county extension livestock, forage, and 4-H agents?
- Have you discussed your new venture with your local veterinarian?
- Have you alerted your next-door neighbors to the possibility of excessive noises, exotic odors, sexual activity during the breeding season, animals getting out, and allayed their fears of the spreading of diseases?

4-H MEAT GOAT GUIDE

Authors: Frank Craddock & Ross Stultz | Texas A&M AgriLife Extension Service

Original source: [4-H Meat Goat Guide \(tamu.edu\)](http://tamu.edu)

Competition in the show arena is increasing every year as 4-H members are discovering that goats are an excellent choice as a club project. Because goats are small, easy to work with and demand a small amount of space, they provide a meaningful livestock experience in a relatively short amount of time.

If you have decided to have a club goat project, your first decision will be to determine which shows to attend. It is your responsibility, as an exhibitor, to read the general rules and regulations as well as special rules governing the shows you will attend. This will tell you the number of goats you may enter, weight limits, ownership dates and entry deadlines. Show schedules, rules and regulations may be obtained from your county Extension agent or directly from the shows.

Show dates are extremely important because they determine the age and size or weight of the goats to be entered, and at what time of year they should be purchased. Many shows require that goats have their milk teeth. Goats usually hold their milk teeth until they are 10 to 12 months of age. After this time, it is probable that a goat will lose its baby teeth and become ineligible for show. Some shows have removed the milk tooth rule, and goats with yearling teeth may compete.

Goat shows also have weight limit requirements that must be met. Under normal conditions, goats will gain approximately 2 to 3 pounds per week. Not all goats can be fed to the same final weight because there are differences in frame size. Large frame goats may be correctly finished at 120 pounds, while small frame goats may be correctly finished at 80 pounds. You must learn to look at indicators of frame size and growth (length of head, neck, cannon bone and body) and determine at what weight a goat will be correctly finished. If you know the approximate weight of a goat at the time of purchase and the length of time until a show, you can calculate feed requirements (light, moderate or heavy) needed to enable that goat to enter the show at its correct weight.

Remember that size does not make a good goat. There are good small goats and good big goats. Your management program is the key.

FACILITIES AND EQUIPMENT

One of the major advantages of a club goat project is that expensive facilities are not needed. A barn or shed where goats can retreat from cold, wet conditions and a pen with outside exposure are essential. Adequate fencing, a feeder and a water container are required, yet other equipment may be considered optional.

Barns/sheds

Goats need a living arrangement that combines access to a shed or barn and an area where they can get outside in the sunshine. The shed area should have at least 15 square feet of space for each goat. The outside pen needs to be as large as possible to permit the goats to exercise. The shed should be well

drained and should open to the east or south. Barn temperature is critical. Structures should be well ventilated so goats will remain cool and continue to grow during the summer months. However, when club goats are slick shorn for shows, barns should be altered during the winter to keep goats as warm as possible. This can be done by closing the front with a tarp or plastic sheet and by using heat lamps. The illustration shows the recommended dimensions and layout for a goat feeding facility.

Fences

Fence height should be at least 42 inches to keep goats from attempting to jump. Fences should be predator proof. If using net wire fences, 12-inch mesh should be used rather than 6-inch mesh to keep goats from hanging their heads in the wire. The most desirable pens are constructed from galvanized livestock panels that are 5 feet tall with 4-inch squares.

Feeders

Self-feeders are often used in the feeding of goats. Self-feeders should be blocked at least 6 inches off the ground. If goats are hand fed, use movable troughs that hang on the fence at the appropriate height. Troughs should be hung at the same height as the top of the shoulder of the goat being fed. These movable troughs need to be taken down and cleaned regularly. Likewise, hay and mineral feeders need to be raised off the ground. This will help reduce the spread of disease. It also is important to make sure that goats are unable to stand in their feed troughs because they will urinate or defecate on the feed.

Water containers

Fresh water is the most important ingredient in feeding club goats. Water should be checked daily. Water troughs should be small in size so they can be drained and cleaned on a regular basis. Troughs should be located in the shade to keep water cool. In the hot summer months, some goats tend to drink too much water and appear "full." Water should never be totally removed from the goat. However, rationing water prior to a show will help remove the belly from the goat and improve its appearance in the show ring. Remember, do not dehydrate your goat. The proper amount of fluids is vital to the feel and condition of your goat.

Equipment

To properly feed and exhibit a club goat, it is necessary to have the following additional equipment:

- stiff brush to clean water troughs;
- shovel to clean pens;
- scales to weigh goats;
- trimming table;
- electric clippers with 20- and 23-tooth combs and cutters
- small animal grooming clippers;
- syringes and needles;
- goat blankets and/or socks;
- halters, collars and/or show chains;
- hoof trimmers;
- drench gun;
- small portable feed troughs;

- soft brush for grooming;
- water bucket.

You may want the following optional equipment if you are exhibiting several goats at major shows:

- show box to hold equipment;
- hot air blower or dryer;
- portable livestock scales;
- extension cords;
- muzzles;
- electric fans.

SELECTION

The selection of a goat for a project is one of the most important decisions you will make. The type of goat you select will have a major influence on the project's results. Remember that a winning goat is a combination of good selection, good nutritional management, proper grooming and outstanding showmanship. People differ in their ability to select animals. Some have a natural eye for selecting young animals of high caliber, while others never develop this ability. Do not hesitate to ask for help from someone with these skills. It may be your county Extension agent, Future Farmers of America instructor, parent or another leader in the county. Also, many breeders are willing to assist you in your selection. When selecting, you must know the animal's age. Remember that most shows require that goats have their milk teeth, therefore you need to know how old your goat is. It also is important to be aware of fat thickness. Young goats that are bloomy and fat always look good, while young, thin goats do not look as nice. Learn to look past fat and recognize muscle so that you can pick a genetically superior goat.

When purchasing a goat, it is important to know some information about the producer. Do not hesitate to ask questions about the goat's bloodline and age.

Consider the following when selecting a goat: structural correctness, muscle, volume and capacity, style and balance, and growth potential.

Structural correctness

Structural correctness refers to the skeletal system or bone structure of an animal. A goat should hold its head erect and the neck should extend out of the top of the shoulders. A goat should travel and stand wide and straight on both front and rear legs, and the legs should be placed squarely under the body. A goat should have a strong level top, and a long rump with a slight slope from hooks to pins. Your goat should be heavy boned and be strong on its pasterns. Open-shouldered, weak-topped, weak-pasterned, steep-rumped goats should be avoided.

Muscle

Generally, a goat that walks and stands wide is going to be heavier muscled. The goat should have a deep, heavily muscled leg and rump. When viewed from behind, the widest part of the leg should be the stifle area. The goat should have a broad, thick back and loin that is naturally firm and hard handling. A good goat should be wide through its chest floor, with bold shoulders and a prominent forearm muscle. The chest and forearm are the best indicators of muscling in thin goats.



Volume and capacity

This refers to the relationship of body length to body depth and body width. Goats should be long bodied, with adequate depth and spring of rib. Avoid selecting goats that are short bodied, shallow bodied, narrow based and flat ribbed.

Style and balance

Style and balance refer to the way all body parts blend together, how the neck blends into the shoulder, the shoulder into the rib cage, the rib cage into the loin, the loin into the rump, and how “eye-appealing” a goat is. When viewed from the side, a goat should have a smooth shoulder, level top, trim middle and straight legs. A goat that is balanced, pretty and holds up its head is the first one you notice when you walk in the pen.

Growth potential

The ability of an animal to grow rapidly is very important. Generally, a larger framed goat that shows a long head, neck, cannon bone and body, will grow faster, be larger and be more competitive in the show ring.

NUTRITION

Contrary to popular belief, there is no such thing as a “magic” ration that will make your goat a champion. To implement a good feeding program, study the goat and use all available information to make judgments on when feed changes should be made. Since most goats do not deposit external fat as rapidly as other species of livestock, a self-feeding program can be effective. However, some goats will become too fat during the feeding period and should be hand fed twice daily to control the amount of feed consumed.

All livestock require five basic nutrients: water, protein, fats and carbohydrates (or energy), minerals and vitamins.

Water

Clean, fresh water is a daily necessity because water composes more than 70 percent of lean tissue and all body fluids must be replenished regularly. Never deprive your goat of water because water regulates the amount of feed a goat will consume. However, reduced water intake at certain periods during the program can reduce feed intake and reduce the size of the rumen for improved appearance.

Protein

The primary constituent of the animal body is protein. Dietary protein serves to maintain or replace protein in body tissues, provides for carriers of other nutrients and is a major component of various products such as meat, milk and fiber. Protein requirements for goats vary according to their size, age and maturity. Young, fast-growing goats need higher protein diets to allow them to grow and develop their muscle potential. Rations that contain 16 to 18 percent protein are useful during many phases of the feeding program. Remember that goats have a daily requirement for protein. If more protein is fed than is required, the excess is used for energy. Using protein as an energy source is very expensive. When total feed intake is greatly reduced, protein supplementation may be necessary in order to provide the adequate daily requirements for your goat.

Carbohydrates and fats

The most common limiting nutrients in goat rations are energy-producing carbohydrates and fats. Inadequate energy intake will result in slow growth and weight loss. An adequate supply of energy is necessary for efficient nutrient utilization. Grains and protein supplements are high in energy. However, in goat rations, too much energy intake can be just as detrimental as not enough.

Minerals

The minerals of major concern in goat rations are salt (sodium and chlorine), calcium and phosphorus. Salt can be fed free-choice. However, many rations contain 1/2 to 1 percent salt.

Calcium and phosphorus are necessary for proper growth and development and should be fed at a ratio of two parts of calcium to one part phosphorus. Rations that contain high levels of phosphorus in relation to calcium may cause urinary calculi. The addition of ammonium chloride at the rate of 10 to 15 pounds per ton of feed will help prevent urinary calculi. Roughages are generally high in calcium and low in phosphorus. Grains are generally low in calcium and intermediate in phosphorus. Most protein supplements are high in phosphorus and intermediate in calcium. A mineral supplement with a 25 to 30 percent protein content can be of benefit in a feeding program when used to top dress the ration. However, this will not work with a pelleted ration. Supplements must be used in the proper amounts because excesses will deplete the muscle mass of the goat.

Vitamins

Vitamins are essential for proper body function and are required by goats in very small amounts. Only vitamin A is ever likely to be deficient. If goats are fed alfalfa hay or dehydrated alfalfa pellets in the ration, then vitamin A deficiency should not be a problem. It is a good practice to occasionally inoculate goats with a B complex vitamin. This promotes their health and helps them eat well.

HEALTH

The key to a healthy goat is the development of a preventive health program. Most goats purchased for club projects are on a health maintenance program and have had a variety of vaccinations. However, as you develop your preventive program, assume that the goat you have purchased has had no treatments. Vaccinations and treatments for certain common problems should be included in your program.

Enterotoxemia

A major cause of death in club goats is enterotoxemia or overeating disease. Afflicted animals seldom exhibit symptoms and rapid death is usually the result. This disease is caused by a clostridial organism normally present in the intestine of most goats. Goats that have their feeding schedule abruptly changed or consume large amounts of grain are subject to enterotoxemia types C and D. Feeding changes can cause the clostridial organism to grow rapidly and produce a powerful toxin that causes death in a few hours. All club goats should be vaccinated with a combination (types C and D) vaccine immediately after purchase. At least one booster vaccination is recommended.

Internal parasites

Internal parasites are a continual problem. Newly purchased goats should be drenched immediately for internal parasites and a second drenching should follow about 3 weeks later. Few drenches are approved

for treating goats for internal parasites. Your veterinarian will have the best information on the most effective drenches. Because internal parasites develop resistance to a drench over time, it may be effective to rotate the use of products.

Urinary calculi

Urinary calculi is a metabolic disease of male goats characterized by the formation of calculi or stones in the urinary tract. The first sign of calculi is a goat's inability to pass urine. The goat will be restless, kick at its belly, stretch and attempt to urinate.

The common cause of calculi formation in wether goats is feed rations with high phosphorus levels and an imbalance of calcium and phosphorus. Because grains are high in phosphorus and low in calcium, high concentrate rations may cause urinary calculi. A successful preventive is to provide a 2:1 calcium:phosphorus ratio in the ration and by adding 10 to 15 pounds of ammonium chloride per ton of feed. Provide plenty of clean, fresh drinking water also.

Coccidiosis

Coccidiosis causes weight loss and continued inefficiency in goats. The disease is characterized by bloody diarrhea, dehydration, weight loss and weakness. Sick goats should be separated and given individual treatment as prescribed by a veterinarian. Most commercial show goat rations are medicated with a coccidiostat that should help control coccidiosis.

Soremouth

Soremouth is a contagious, viral disease that causes the formation of scabs on the lips and around the mouths of goats. This virus can affect humans, so be careful when handling goats with soremouth. Iodine can be rubbed into lesions after the scabs are removed and this will help dry the area and reduce the infection. The Texas Agricultural Experiment Station manufactures an excellent soremouth vaccine. As with all live-virus vaccines, use extreme caution when administering the product.

Ringworm

Ringworm has become a serious problem in the lamb industry. Because most club goats are shown in the same barns and show rings as lambs, it is probable that ringworm will become a problem in goats as well. Ringworm is contagious and can be transmitted from goat to goat, from goat to human, or from infected equipment to goat. A good prevention program is necessary. The following products have been used with varying results:

- Fulvicin® - powder given as a bolus or used a top dress feed.
- Novasan® - 3 ounces per gallon of water sprayed on goats, equipment and premises.
- Bleach - 10 percent solution sprayed on goats, equipment and premises

Pinkeye

This contagious disease is characterized by excessive watering of the eye and clouding over of the pupil. Goats are susceptible to pinkeye especially after they have been transported to a new location. Dry, dusty pens and constant exposure to sunlight can be contributing factors. There are several medications on the market for pinkeye. If you do not notice improvement within a few days after treatment, contact your veterinarian.



Illegal drugs

State and federal laws and regulations concerning the use of drugs for livestock and poultry are established to protect human and animal health. These laws and regulations state that instructions and restrictions on product labels must be strictly followed. The labels state the species or class of livestock or poultry for which the drug is to be used, the recommended route of administration, the approved dosage rate and specific conditions to be treated. When administering drugs, always follow label instructions.

The use of a drug in a manner other than stated on its label is regulated by the Food and Drug Administration and may be done only under the control of a licensed veterinarian. The veterinarian assumes the responsibility for making medical judgements and you, the client, agree to strictly follow the instructions.

Most Texas livestock shows have strict policies against the illegal use of drugs and will disqualify animals if such drugs have been used.

Hoof trimming

A goat's hooves will grow long if they are not naturally worn down by traveling over rough terrain. Long hooves should be trimmed about every 6 weeks. Always trim hooves 1 to 2 weeks before a show in case you accidentally cut into the quick and temporarily cripple the goat. This will allow the goat time to heal before the show. If foot rot develops, treat it by trimming the hoof closely and placing the foot in a zinc sulfate foot bath.

Dehorning or tipping

Some shows require that goats be dehorned. If you plan to dehorn, it is preferred to "disbud" goats at 14 to 28 days of age. The older the goat is and the larger the horn, the more stressful it will be on the goat. Other shows request only that goat horns be tipped for show. Tipping can be done easily without causing much stress to the goat. Horns should be tipped 4 to 6 weeks prior to the show to allow the horns to heal properly. Dehorning or tipping rules are made for the safety of the exhibitors.

MANAGEMENT AND FEEDING

You have a choice of feeding a commercially prepared ration, mixing your own, or feeding a county ration that has been mixed and is sold by the local feed store. There are many complete commercial rations available. Goats are picky eaters; therefore, a pelleted ration is recommended over a textured or loose ration. Select a balanced ration, learn how to feed it and learn how your goat responds to it.

At the time of purchase, many young goats will not know how to eat pelleted feed from a trough. These goats should be started on good, leafy alfalfa hay that is top dressed with a preconditioning pellet. After 3 or 4 days, the selected ration may be introduced slowly. Hay can be fed during the first part of the feeding program but should be eliminated at the later stages to prevent goats from developing large stomachs.

Most goats can be self-fed for the entire feeding period. However, some goats will become fat and need to be hand fed. Fat deposition must be monitored throughout the feeding program. The feeding schedule can be adjusted to modify gain and body composition, but the goats must be continually monitored so changes can be made. Rations not producing enough finish can be bolstered by the addition of a high energy feed, such as corn, during the late stages of the feeding program. Remember, never make abrupt changes in your feeding program. Make gradual changes so your goat will stay on feed and continue to develop.



The feeding program will dictate how your goat develops and matures. A good program cannot make up for a lack of superior genetics, but it will allow your goat to reach its genetic potential. Feeding is a daily responsibility, and the program should be changed as needed to maximize your results. To best monitor your results, weigh your goat on a regular basis. Know whether your goat is gaining or losing weight and know how much weight. Exercise can be very beneficial to your goat and to your success in the show ring. Goats are very active animals and, if given enough room, they will exercise themselves. Have objects like big rocks or wooden spools in your pen for climbing and jumping. This will provide your goat with an excellent opportunity to exercise itself. A goat that exercises will handle harder and firmer and will give you an advantage in the show ring.

FITTING

Most of the major shows in Texas enforce the shearing rule for goats. Because some differences in hair length are allowed at the time of show, it is important to read the show rules prior to clipping your goat for a particular show.

It is not always necessary to wash your goat, but it can be beneficial. Use a mild soap sparingly, rinse the animal thoroughly and dry the goat completely. Then, brush your goat with a stiff brush on a regular basis. Brushing removes all of the dead hair and dirt.

Shear your goat according to show rules at least 2 to 7 days before the show. This will allow clipper tracks to even out and the pink skin to become less apparent. A pair of electric clippers equipped with either a 20- or 23- tooth comb should be used to ensure a smoother, more attractive goat. While shearing, the clippers should run parallel to the length of the body rather than vertically. Hair below the knees and hocks should not be shorn, and the hair on the end of the tail should be bobbed. Small animal clippers may be needed to clip closely around the eyes, ears, pasterns or delicate areas on the goat.

If shearing in cold weather, cover your goat with a lamb sock and/or blanket immediately after shearing. A clean, well-bedded pen should be provided to keep the goat clean and dry.

SHOWING

Some people are natural showmen, but all exhibitors can learn techniques to improve their showmanship skills.

Preshow preparation

The amount of time required to train a goat for show depends on the goat, the physical size and experience of the exhibitor, and the intensity of training. Some goats are easy to gentle and train for show, while others goats are difficult and nearly impossible to train. Most goats can be trained if enough time and effort are spent. Unlike lambs, goats are shown with a collar or chain.

Halter breaking is an excellent way to start the gentling process, especially if you have several goats. Collars, chains or inexpensive rope halters can be made or purchased from feed and livestock supply stores. Goats should be caught, haltered, chained or collared and tied to a fence. If using the collar or chain, snap them to the fence. Do not tie the goats where they can hurt themselves and do not leave tied goats unattended.



After your goat begins to gentle, you can start teaching it to lead. Use the collar, chain or halter to keep the goat's head up while you teach it to lead. Have someone assist you by pushing the goat from behind whenever it stops. Teach the goat to lead with its front shoulder even with your leg. The goat's head should be in front of your body.

The next step in the training process is to lead the goat and properly set it up. Set the front and hind legs squarely under the body, keeping the body and neck straight and the head in a high, proud position by using the chain or collar. Halters should never be used in the show ring; use only chains or collars. You should remain standing at all times. Do not squat or kneel.

After the training is complete, you may wish to practice showing. Set up your goat and show it while someone else handles it. You must make sure the goat looks good at all times. If the goat responds properly, return it to the pen and do not overwork it. Remember, in a major show, you may have only 5 seconds to actually show your goat. If the goat does not show properly when the judge handles it, you may get overlooked.

Show ring

Your planning, selection, feeding, fitting, training and grooming have brought you and your goat this far — to the show ring. Now, your skill in exhibiting your goat — showmanship — cannot be emphasized too strongly! It is often the difference between winning and losing.

You should be mentally and physically ready to enter the show ring for competition. By completing the preshow activities, you should have confidence that you can do an effective job showing your goat. You should be neat in appearance, but not overdressed. Do not wear a hat or cap in the show ring.

Before the show begins, become familiar with the show ring. When the judging begins, watch the judge if possible and see how he works the goats. You will feel more comfortable and confident if you know what the judge will want you to do.

When the appropriate class is called, take your goat to the show ring. If the ring stewards do not line up the goats, find a place where your goat will look its best. Avoid corners of the ring and leave plenty of space between your goat and others. Set your goat up, making sure the legs are set properly, and keep the body, neck and head in a straight line with the goat's head up and alert. Always show with both hands. Do not put your free hand behind your back; use it to keep the goat's head and body straight.

A good showman must be alert and always know where the judge is at all times. Remember to keep your eye on the judge! Remain calm and concentrate on showing. Set up your goat and be ready before the judge gets to you. Be careful not to cover your goat with your body and block the judge's view. Always keep your goat between you and the judge. In large classes, it may take 20 minutes before the judge handles your goat. Be patient and let your goat relax.

After handling your goat, the judge usually will step back and look at it. Be sure to keep the goat's head up and body, neck and head in a straight line. Keep one eye on the judge and one eye on your goat. It is your responsibility to watch the judge and not miss a decision.

If your goat is not pulled the first time, keep trying. Continue to keep it set up, remain alert and watch the judge. If your goat is pulled, circle it out of the line and follow the directions of the ring steward while continuing to keep an eye on the judge. Move your goat with style and at a steady, moderate pace.

Remember to keep showing at all times, because a class is not over until the ribbons are distributed. Be courteous to fellow exhibitors. A good showman will emphasize strong points and minimize weak points of a goat. Remain standing at all times and always display a pleasant facial expression. Be a good sport, a graceful loser and a humble winner.

MEAT GOAT SHOWMANSHIP

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Original Article: [Meat Goat Showmanship | NC State Extension Publications \(ncsu.edu\)](#)

INTRODUCTION

A good showman is a person that has a sense or knack for an effective presentation of an animal. Showmanship is the one area of livestock showing over which the exhibitor has the most control. In showmanship you are judged on your abilities to control and present your goat to bring out its best characteristics. Advanced planning, practice and hard work are the key to becoming a good showperson. Meat goat showmanship not only generates enthusiasm in the show ring, but also teaches many valuable lessons that can be used in day-to-day life. These lessons include responsibility, learning about work and determination to reach a goal, winning graciously and losing with dignity. This will take practice at home with your goat and having someone act as a judge as if at a show.

APPROPRIATE DRESS

Dress neatly. Leather boots should be worn for safety and appearance. If the goat steps on your foot, the goat's foot will slip off a leather boot much easier than a tennis shoe. Wear clean jeans or slacks. Faded bluejeans look less professional and should not be worn.

Wear a neat button-down or polo shirt. No camouflage shirts or T-shirts should be worn. The shirt should be tucked in. Wear a belt for neatness. Leave hats and grooming equipment back at the grooming area. Hats may distract the judge's concentration. Your planning and neat appearance will help make a positive impression on the judge.

SHOWTIME

Before the show, walk over the show ring to find the high and low spots of the show ring surface. This will help make sure the goat is set up going uphill and not in a hole.

Be sure to enter the show ring promptly and that the goat is led from the left hand side. Small exhibitors may use a collar, chain or halter. However, more advanced exhibitors should lead the goat with their left hand under the goat's chin and the right hand behind the ears and or/ with a chain or collar.

Quickly yet smoothly, set the goat up so that all four feet are at the corners of its body and the goat's weight is distributed evenly over its legs (Figure 1). When setting up the goat, do not get down on your knees because you will have less control of your goat. One way to move the back feet is to press back on the

opposite shoulder of the foot you want to move. Small showpersons may stand and use the halter and their feet to set the goat's legs. Use the halter to indicate the direction you want the feet to go while using your foot to move the goat's leg. Larger exhibitors may use their hands to set up the goat. Set the rear legs first. Then set the front legs.

Once the goat is set up, be sure the head is held up. Then locate the judge. Remain standing in front of your goat when the judge is viewing the goats from the rear. Never place your hand on the goat's back or the base of the neck; this will obstruct the judge's view of the goat's top. As the judge moves around to the right side and around in front of the goat, move to the left side of the goat, so it is between you and the judge. When the judge is in front of the goat, remain on the goat's left side, so the judge can see the front view. Be sure to keep the head high and in line with the goat's body. You may hold the head up with the collar, halter or with your left hand under the goat's jaw. As the judge moves to the left of the goat, move back to the front of the goat to give the judge a full view of the entire animal. Do not move to the right side of the goat. When in front of the goat, you have more control and this position will provide the side view that the judge seeks.

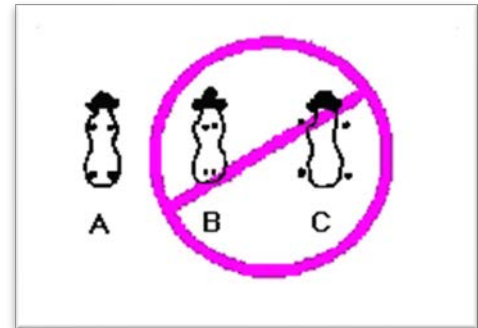


Figure 1. Figure A shows the feet squarely placed beneath the goat. Figures B and C are incorrect.

HANDLING THE GOAT

Be ready for the judge to handle your meat goat. Train the goat to stand to be handled by the judge. Ideally, you should hold the goat by the head, collar, chain, or halter while standing away from the goat. If the goat does not stand still be prepared to restrain it.

To restrain the goat, hold it by one or a combination of ways as described above. Use one of two methods. One method is to stand in front and place your knees in front of the goat's shoulder (Figure 3). Another method to restrain your goat is to grab a front leg below the knee and raise the leg up toward you while leaving the other three legs on the ground (Figure 3). While restraining your goat, never pick the goat up so that both front feet are off the ground. This does not give you an advantage. It is an example of poor showmanship. After the judge finishes handling the goat, set it up in line with the other exhibitors.



Figure 3. Restrain your goat by placing your knee in front of the shoulders or by picking up a front leg.

The preferred way to show meat goats is NOT to brace the animal. However, some judges will allow you to brace. Observe the first class and listen to the judge to determine if bracing will be allowed. You should be prepared to brace your goat if bracing is allowed by the judge and you want to be at the same advantage as the other exhibitors.

MOVING THE GOAT

After handling the goats, the judge will indicate what is to be done next. Most likely the judge will want you to walk the goat. Be sure that the goat is under control and is between you and the judge. If your goat does not lead, gently reach back and lift up on the goat's tail. If an exhibitor ahead is having problems, help that person. Never whip the goat with the halter rope or grab the goat by the skin. This will result in a bruise and a soft area will remain for some time.

Once the judge requests that you stop for the side view, set your goat up as discussed earlier. Small exhibitors should stand in front or on the goat's left side to keep control. Older, larger exhibitors may squat or stand on the goat's left side. Standing is preferred. Do not put your knees on the ground; squat so you may get up quickly and maintain control of your goat. Stay alert; the judge may handle the goat again or motion to move to another line. Once you are pulled to the placing line, remember the class is not over. Be sure the goat is set up and looks its best.

The judge may decide to place the goats differently after one last look while all goats are lined up side by side. If you are asked to move in the line, Figure 4 shows what should be done for different situations. Be sure to line your goat up in a straight line from the first goat set up, as illustrated in Figure 4.

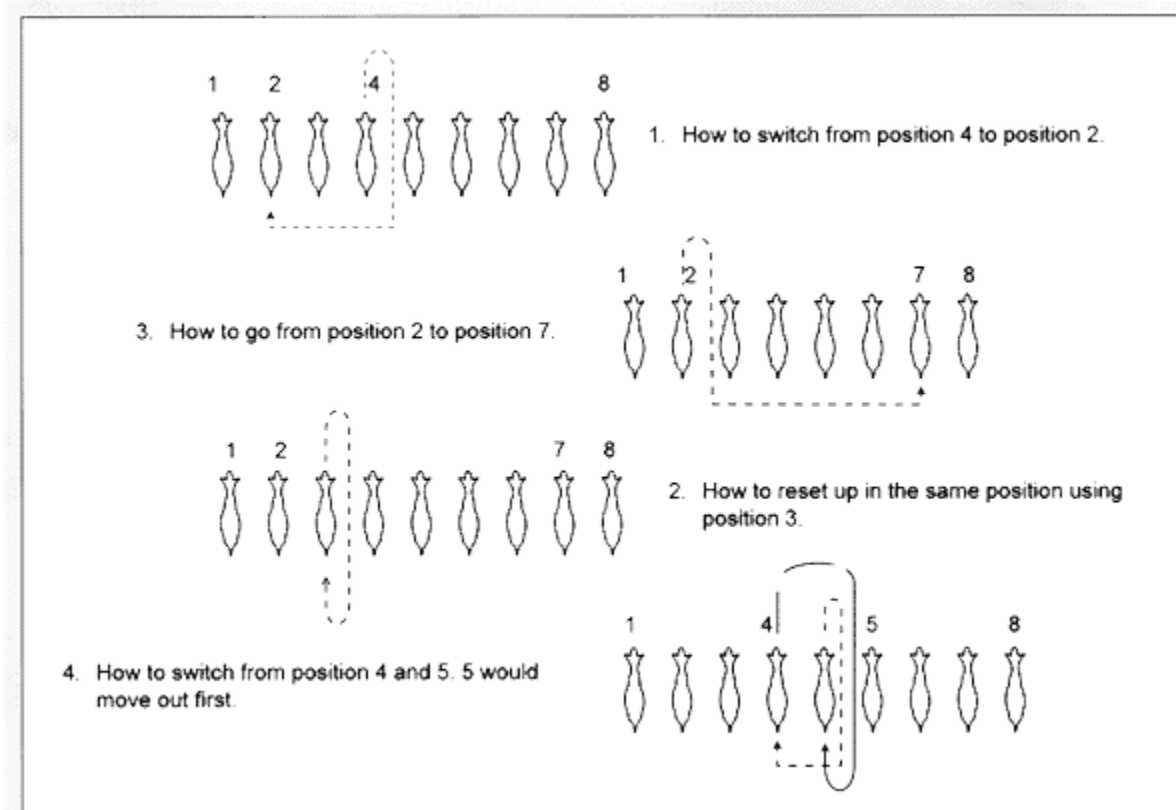


Figure 4. Proper procedures for changing positions.

Once the judge starts giving reasons, the class is over, but exhibitors should continue to work hard and display good sportsmanship. Congratulate the class winners and those who stood ahead of you. Ask if you

can handle the goats that placed above you. This will allow you to learn what to look for in your next goat project.

Finally, remember this is a learning experience. Leave the ring with your head held high, knowing that you have given this project your best effort. Learn from your mistakes, watch other showpersons, and improve your skills for the next show.

GOAT SHOWING EQUIPMENT

Showbox

- feed pan
- water bucket
- collar, neck chain, or halter
- clippers
- wash brushes
- hose (short)
- soap
- blanket
- stand
- small show brush
- health papers
- show catalog
- pen signs
- hammer and nails
- wire and pliers
- goat feed
- bedding (sawdust, chips, or straw)

Personal

- camera
- towels, washcloth, soap
- lawn chairs
- rubber boots & work clothes
- show clothes
- safety pins (for exhibitor numbers)
- first aid kit
- flashlight and batteries

HERD HEALTH MANAGEMENT PROGRAM FOR GOATS

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Herd health management programs attempt to organize all information applicable to goat herd health into a simple, usable, and easily remembered format. The goal of the program is to improve the herd's productivity through general husbandry, nutrition management, parasite control, vaccination, and environmental management. Careful recordkeeping must be done to monitor the program's progress.

Regarding general husbandry, it is important to feed goats the appropriate rations and provide shelter against rain and dampness. The goat's hooves must be trimmed regularly to prevent the overgrowth that leads to foot rot and other foot problems. Goats should be fenced out of wet, marshy areas for proper foot care.

Wethers being fed grain are subject to urinary calculi, which are potentially fatal. Feeding ammonium chloride along with grain may help prevent formation of calculi. A constant source of fresh water is necessary for all goats.

All breeding-age animals must be tested for brucellosis and tuberculosis annually. Although it is not necessary for a veterinarian to perform all procedures, a herd health program becomes more effective when a veterinarian's advice and services are used regularly.

Each goat herd is unique and requires a program to suit individual herd needs. This article attempts to give some guidelines that can be used to develop a herd health program.

Late Pregnancy and Dry Does

Does in late pregnancy should be allowed a 40- to 60-day dry period to regain condition lost during lactation, to allow the mammary glands to rest, and to prepare the doe for kidding as well as the next lactation. Does bred at 70 to 110 days should be examined for pregnancy before drying off. At drying off, all udders should be treated with dry-cow mastitis antibiotics. This treatment is very important, because many udder infections begin during the first several weeks of the dry period. Teats should be dipped for at least five days after drying off.

The dry period is an ideal time to deworm the goats. Internal parasites increase activity during late pregnancy and can be eliminated if the does are dewormed during the dry period. Goats should be dewormed at breeding and two weeks before kidding; goats should also be examined for such external parasites as lice and treated if any are found.

Late pregnancy is the recommended time to give the yearly vaccination boosters that are used in the herd. The vaccine will both protect the doe and ensure high levels of antibodies in the colostrum, which will subsequently protect the newborn kid. I recommend at least a five-way *Clostridium* vaccine (*C. perfringens* types C and D, *C. chauvoei*, *C. novye*, *C. septicum*, and *C. sordellii*) along with a tetanus booster three weeks before kidding.

The doe must be kept in proper body condition (i.e., not too fat or too thin). Over-conditioning predisposes pregnant does to such metabolic problems as pregnancy toxemia. This disorder is often fatal to both the doe and the unborn kid.

Kidding Does and Kids

The doe must be given adequate exercise until the time for kidding is very near. When kidding is about to occur, the doe should be confined in a clean maternity pen. The doe's udder and soiled hindquarters must be washed after kidding. The doe can be assisted in the cleaning and drying of the kids. The navels of the newborn kids must immediately be dipped in tincture of iodine. Kids should nurse within one hour of birth for maximum protection against disease.

In herds affected with caprine arthritis encephalitis (CAE), the kids must immediately be separated from their mothers to prevent suckling; they are then fed two to three ounces of pasteurized goat colostrum or cow colostrum. If no one can be present at kidding, the doe's teats must be taped to prevent nursing. Placenta and discharges should be removed as the doe expels them; the doe must also be prevented from eating such discharges because they can cause indigestion. All kids must be examined for navel infection; if needed, the navels should be retreated with tincture of iodine. All kids must be checked for congenital abnormalities.

A disbudding iron is used to disbud Swiss breeds at four days of age and Nubians at seven to ten days of age. Male kids are castrated at the same time, and extra teats are removed. If the doe is not vaccinated at drying time, the kids are given the Clostridium-tetanus vaccine at one to three weeks of age. Otherwise kids can receive the vaccine when they are between one and two months of age and receive a booster two weeks later.

All goats in the herd should receive yearly booster vaccinations. Kids are dewormed at three to four weeks of age with such drugs as fenbendazole and ivermectin and again at three months of age, depending on housing conditions. Management practices dictate whether kids are treated for Coccidia during weaning or two to three weeks later.

Weaned Kids

Kids must be examined for intestinal parasites one month after weaning. Buck kids and doe kids must be separated by three months of age. Polled kids should be rechecked for any genital abnormalities. Feet must be trimmed before kids are turned out. Kids are susceptible to polioencephalomalacia, which is caused by thiamine deficiency. Deficiency of this vitamin should be a primary diagnostic differential for any kid with neurologic signs, such as blindness or opisthotonos.

Bucks

Bucks are given vaccines and parasite treatments at the same time as other animals in the herd. Bucks must be given plenty of exercise. Feet must be trimmed at least four times yearly. Before the breeding season, bucks must have adequate body condition and should be examined for genital abnormalities.

Parasitology

There is little doubt that parasitism, either directly or indirectly, is the leading cause of death among goats - especially animals younger than six months of age. Removing goats from their normal dry, tropical habitat to humid, temperate regions has greatly affected the normal relationship between goats and internal parasites.

Stomach Worms The most important internal parasite of goats, the stomach worm (*Haemonchus contortus*), is prevalent throughout the southern United States. This worm is able to survive for prolonged periods of cold, hot, and dry conditions. Kids younger than six months of age, which may be concentrated during weaning and confined into small lots or pasture, are especially at risk, as are older goats kept in large numbers on a small pasture.

Goats infected with stomach worms demonstrate such signs as dullness, weakness, bottle jaw, poor appetite, loss of weight, soft stool, possible diarrhea, recumbency, and death. Because these parasites suck blood from the stomach wall, the goats also become anemic. A definitive diagnosis should be made after microscopic examination of feces.

Prevention, rather than cure, should be the philosophy used in developing control and treatment programs against gastrointestinal worms. It must be assumed that the worms cannot be totally eradicated but can be limited to the extent that they will not cause economic loss for the producer. Clinically ill animals represent only a small part of the true economic impact of parasites. Attention must also be given to subclinical disease, in which animals do not show apparent signs, but fail to gain weight. A combination of treatment and management is necessary to achieve control of parasites.

A regular program of deworming is essential for parasite control. Rotating anthelmintics at regular intervals in order to prevent parasite resistance is recommended. Thiabendazole is the only approved anthelmintic for goats but unfortunately is not very effective because of parasite resistance to the drug. Thiabendazole has also been associated with polioencephalomalacia in some breeds of goats.

Because of a lack of many approved products for use in goats, most anthelmintics are used off-label. The following products should be considered: fenbendazole two to three times the label dose for cattle; ivermectin at 1 ml/88 pounds of body weight (1% cattle injectable may be administered orally, which will prevent abscess formation at injection sites); and levamisole as a drench or injection according to label specifications for cattle. A veterinarian should be consulted for advice on methods to avoid drug residue.

Other worms can affect goats. Such worms include lungworms (*Mullerius capillaris*) and intestinal worms (*Trichostrongylus* species). These worms are fairly common and are responsible for many young and adult animals being unable to maintain good condition.

Coccidia

Coccidiosis is a contagious disease of goats, especially young kids. In young animals, signs similar to those caused by stomach worms may be seen. Coccidiosis is greatly overlooked on many farms where deworming is directed only at traditional parasites and where programs of checking the feces for Coccidia are not in place. The classical signs of coccidiosis are most obvious in young kids and include diarrhea, severe weakness, and sometimes bloody stools. Also, Coccidia tend to predispose young animals to pneumonia.

Coccidia in young kids are generally acquired from adult animals that shed the parasites from feces into the pens and yards. Although coccidiosis is typically a disease of young, growing kids, most adults are mildly infected and will continuously shed oocysts that infect young kids. Diagnosis can be based on clinical signs



or microscopic fecal examinations. Coccidiosis should be suspected when kids older than two weeks of age have scours. Older kids and adults with diarrhea may have worms, coccidiosis, or both.

Preventing coccidiosis in the herd is very important if young kids are to thrive. As soon as diarrhea has developed, most damage to the intestinal wall has occurred. A variety of drugs, including sulfa drugs and amprolium, may be given orally to treat sick kids. Monensin in the feed has also been used as prophylactic medication.

Summary

Attention to the many facets of goat husbandry is crucial to the overall health of the herd. The technician must be in tune with the various factors that affect the health of kids, does, and bucks. Nutritional and housing factors must be considered. Parasite prevention and control should also play an important role in the husbandry of goats. In this regard, the technician should be aware of the various types and dose regimens of currently available anthelmintics that are effective for control of parasites in goats.

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FEEDING PROGRAMS FOR MEAT GOATS

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Introduction

The nutritional needs for goats are shown in a booklet, "Nutrient Requirements of Goats", published by the National Research Council, Washington, D.C. (NRC, 1981). It is also available commercially for about \$8. Please note that the figures given as recommendations are "approximate"; at this time, they should be considered as guidelines only. Further research and field experience will eventually increase the reliability of future published figures.

Nutrient Requirement of Goats

All breeds, sexes and ages of goats require the same basic nutrients: protein, energy, minerals, vitamins, and water. The diet must contain adequate protein; no other nutrient can substitute for it. However, energy needs may be derived from dietary carbohydrates (starches and/or fiber) or fats or even from excessive protein. Nutrients are required by the goat for: maintenance, growth, gestation, lactation, and fattening. Maintenance requirements are used for basal metabolism (maintain body temperature and support vital functions) and for physical activity. The daily maintenance requirements may range from 50 to 100% of total daily nutrient requirements, depending on whether the animal is also growing, lactating, gestating, or fattening.

The nutritional requirements of goats managed primarily for milk production and those managed primarily for meat production are quite similar with perhaps two notable differences. First, dairy goats are expected to milk at relatively high and persistent levels throughout a 9–10-month lactation; meat goats need only achieve a 4-7 month lactation with high initial milk flow, persistency beyond 4 months being of lesser concern. Secondly, dairy goats are typically fed considerable concentrates (grain mixtures) to encourage maximum and persistent milk flow. In contrast, lactating meat goats are not usually fed concentrates in addition to their forage diet because the extra kid growth achieved from the extra milk may well not repay the added costs. As always, special circumstances may occasionally alter normal cost-benefit calculations.

Forage Supplementation

To be economically viable, meat goats must get most of their required nutrients from forages. See the related chapter for detailed information on types of forage, nutritive value, and stocking rates.

In those situations, in which the available forage is insufficient in protein or energy or minerals to support desirable levels of goat performance, proper supplements should be offered in adequate quantities but, as always, with due respect to the likely cost-benefit exchange involved. In actual practice, most owners provide extra minerals to their goats year-round. Typically, these may be in the form of trace mineralized salt (loose or block), individual sources of calcium and/or phosphorus (offered separately or in combination with salt), or commercial mineral mixtures. Phosphorus content of forages is usually much lower than calcium content. Adequate phosphorus being necessary for reproduction and milk production, supplementation is usually economical. Goats apparently have a much higher tolerance to copper than sheep so typical cattle mineral mixes are *usually* safe for goats.

In those grazing situations in which the plants are *too low in protein* (or in which forage quantity is much reduced), additional protein must be offered to maintain acceptable goat performance. Protein supplementation may take many forms and cost per unit of protein may vary widely. Experienced goat feeders compare protein costs, presence of other dietary components, palatability, feeding facilities required, labor cost/convenience, and likelihood of achieving fairly uniform intake per animal. Feeding a hay of



sufficient protein level is frequently the optimum solution. In other cases, a lb or so of 20% crude protein (CP) cubes or 0.5 lb of 40% CP supplement or 0.5-1.0 lb of whole cottonseed may be economically sound and nutritionally adequate. Protein blocks of about 37% CP are widely used during southwestern winters. Some owners have observed that grazing small grain pastures for only 1-2 hours per day will provide adequate supplemental protein (and energy) to their dry pastures or, lower quality hays. The continuous availability of roughage, even poor-quality hay, is important during such protein supplementation; it allows the animals to economically use the protein supplied.

High protein supplemental feedstuffs, used only occasionally by meat goat owners, are cottonseed meal and soybean meal. Whole cottonseed, cull pea seed and cracked mung beans have also been used when conveniently available and priced competitively. Other protein feeds, such as gluten feeds, mill feeds and urea (in range blocks), are used as sources of protein. Choosing between alternative high protein feedstuffs is largely an economic decision. Dividing the price of a cwt of feed by its protein content (lb protein/cwt of feed) will yield the cost of 1 lb of protein and thus facilitate comparisons.

When existing pastures and/or browse are unacceptably low in energy, experienced goat owners offer good quality hays to maintain performance; 0.5 to 1.0 lb of shelled corn is also used, as is whole cottonseed. Cost per unit of energy is always a consideration but, without adequate energy, conception rates, milk flow, and kid growth rates will be compromised, and gross income reduced. Some producers compensate in advance for expected declines in forage quality and availability by keeping protein blocks and hay available free choice, noting rises in consumption as pasture conditions worsen.

Concerning the composition of high energy feeds, experienced livestock owners know that there are only small differences between corn, milo, barley, and wheat. Choosing one over the other is mostly a question of relative costs per cwt. However, some goat producers feel that milo should be used only sparingly, if at all, as it can promote urinary calculi in males (Ca:P ratio lower than about 1.5:1 predisposes the formation of calculi). In the absence of definitive research, wheat should probably not constitute over 50% of a grain mixture. Price frequently may preclude the use of oats, even though it is an excellent goat feed. Costly grinding of the grains for goats is seldom necessary.

The use of salt-limited protein and/or energy feeds for goats is rarely practiced. However, we have found a mixture of ground milo, cottonseed meal and 8 - 15% salt to be useful. This 16% (or 20%) protein feed will supplement open, pregnant, and lactating goats on either dry grass or hay or late summer or limited grazing. Consumption is slow initially but then rises to 0.75/1.25 lb/hd/day depending on roughage intake.

"Flushing" is the practice of feeding breeding age goats' supplemental protein and/or energy for 30 days prior to and 30 days following the introduction of bucks to achieve a weight gain during this period. This weight gain is usually accompanied by improved fertility, increased conception, and twinning. Flushing may or may not be necessary for meat goat production, depending on quantity and quality of available forage. If flushing is necessary, 0.5 lb of corn and/or 0.5 lb of protein supplement day/head will usually suffice.

When planning grazing and supplementation practices, it is prudent to always remember that a meat goat enterprise generates cash income from the sale of surplus kids and cull adults as well as non-cash, but real, benefits from brush control and pasture improvement--perhaps \$10 - 15 per breeding female per year. Obviously, adequate year-round grazing with only mineral supplementation is the optimum option; all other options increase costs but likely would be economically wise.

Creep Feeding

Commercial meat goat raisers do not ordinarily creep feed their kid crops on the premises that: a) their does are capable of weaning kids acceptable to the market, b) it would not be cost-beneficial, and c) the logistics

would be unworkable or at least inconvenient. Relatively recent changes in goat marketing strategies (premium prices for high quality kids and potential need for heavier, better conditioned kids for the supermarket and restaurant trade) may come to alter one or more of these premises. Widespread use of the newly arrived Boer bucks on Spanish does of limited milk production capability may also encourage creep feeding to support the well-known rapid pre-weaning gaining ability of Boer kids.

Should you elect to creep feed your kids, a number of commercial feed mixtures are available, e.g., lamb grower, beef calf creep, dairy calf starter or grower, and horse/mule feed. For best results, the percent protein should be 12-14 (as-fed basis) and the percent fiber should be no more than 18. However, simple grain mixtures of corn, oats, barley, or milo would probably also suffice. The crucial characteristic of a creep feed is that it be palatable enough to promote adequate intake; coarse grinding or pelleting (3/16") may improve intake over meal forms.

Research on creep feeding of range-raised kids is virtually non-existent and dairy goat kids are only infrequently raised on their dams. Dairy kids weaned at 8 wks have been shown to eat 2-4 oz of concentrate/hd/day and increase intake rapidly thereafter with feed efficiencies on the order of 6 lb feed/lb of gain depending on body weight.

Conditioning Goats

There are very few goat enterprises that are analogous to beef cattle feed-lots. The explanations are several: 1) the market does not want "fat" goats, 2) goats are not very efficient in converting high energy feeds to body weight gains, and 3) the likely cost-benefit ratio is such that it would be seldom profitable.

As always, there are exceptions. Lightweight weanling goats that are in poor condition due to poor nutrition or parasite load could possibly be put through a form of feed-lotting which might be called "conditioning". To reduce costs and avoid problems commonly associated with animal density, a controlled grazing scheme, with no or limited grain might be economically viable.

Experienced stockmen know the principle and practice of compensatory gain, i.e., a more mature animal that has been nutritionally deprived and has a low weight-to-frame ratio can, if healthy, make very rapid and efficient gains--for a short while, prior to beginning fat deposition. Some producers with the right blend of feed and other resources might make a fair return on this type of conditioning program.

A third example of conditioning has been only infrequently practiced but, with *excellent management*, could likely be done profitably in *special* circumstances. This program, as demonstrated by Dr. Robert Herr of Narvon, PA, uses underweight young kids or weanlings from traders, auctions, and local sources. The kids are put through a series of medical and dietary treatments featuring, initially, high roughage, and thereafter increases in concentrates. All are fed in loose housing with exercise lots. There are two key features to this program: the health practices and the marketing practices. The kids must survive and do well and they must be bought cheaply and sold *any time* the nearby market provides a profitable price level. This program is not for everyone; the opportunities for disaster are everywhere and always present.

One last observation on conditioning of meat goats. The typical long and stressful haul from production areas to slaughter plants yield a goat in very poor physical condition--so much so they may well die before they can be scheduled for slaughter. During a recent marketing study, we found no one in the New York trade who though it would be possible, much less profitable, to off-load and recondition such goats for a few days or weeks prior to slaughter (Pinkerton, et al., 1993).

A possible exception comes to mind. If the animals were properly handled prior to shipment and if the haul was less than 24 hrs, it might be feasible to condition goats in the Carolinas and Virginia prior to sale to the



NYC and South Florida areas, either live or in carcass form. Probably the only economically feasible program would be a grazing strategy plus mostly corn and mineral supplement.

Unfortunately, universities rarely engage in the type of research needed to generate the needed information for decision making of this kind. Producers may well have to do it by trial and error and stand the cost personally or perhaps get a slaughter plant to provide partial assistance. But the potential seems to warrant a further look.

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