

Common Diseases— Their Prevention & Control

Maintaining the health of your newly purchased goats is critical. The first 2 to 3 weeks following their arrival at your farm are very important. New goats require a great deal of care and attention. By careful observation, you will learn to distinguish a normal, healthy goat from a sick one. Early diagnosis and treatment of any illness will pay big dividends. Ease the discomfort of the goat during an illness by giving it good feed, plenty of water, a clean pen protected from dampness and drafts, and plenty of rest.

Infectious Diseases

Caprine Arthritis Encephalitis Virus

Signs—Caprine Arthritis Encephalitis Virus (CAEV) is a very serious, contagious disease caused by a virus. In young goats, CAEV attacks the spinal cord and brain. It causes severe arthritis in older goats.

CAEV usually affects kids between the ages of 1 and 4 months. The early signs are lameness, lack of coordination or weakness in one or both hind legs. The feet may “knuckle over,” making it hard for the kid to stand. The hind legs become progressively weaker until the kid is paralyzed. The goat may also develop mild pneumonia. The disease may take from several days to several weeks to run its course. During this time, the kid usually remains bright and alert and continues to eat and drink.

Goats with the arthritis causing form of CAEV usually begin to show symptoms between ages 1 and 2. They may gradually develop lameness that is accompanied or followed by swollen joints. Usually the knees are affected, although the hock and stifle joints may also be affected. As the condition progresses, the joint pain and stiffness become more apparent. The goat may spend most of its time lying down. It loses weight and develops a rough hair coat.

The speed and severity of this form of CAEV varies. Some goats may be severely crippled within a few months, while others may show only occasional lameness or stiffness for years without ever becoming completely disabled.

Prevention—CAEV is passed from mother to kid in the doe’s milk. Does that are suspected of having CAEV should not be allowed to nurse their kids. You can bottle-feed pasteurized goat milk to kids from afflicted does. Pasteurization kills the CAEV virus without changing the nutritional value of the milk.

Treatment—There is no known cure for either form of this disease. Once CAEV has been diagnosed, the infected animal is usually destroyed.

Pneumonia

Signs—Pneumonia is a lung inflammation or irritation. It can be caused by bacteria, viruses or mycoplasma

organisms. The primary cause of pneumonia in goats is stress (often from poor ventilation). Stress lowers the goat’s defenses against pneumonia causing organisms. Poor ventilation can be a stressor in winter or summer if the goats are kept indoors. Another common cause of pneumonia is goats standing outdoors in cold, wet weather. This is especially dangerous after shearing.

Some common signs of pneumonia are abnormal nasal discharge, persistent cough and labored breathing. Goats become weak, depressed, and stop eating and drinking. In severe cases they may die.

Pneumonia is not common among goats, but it usually strikes several goats from a single herd at about the same time.

Prevention—Because so many factors can cause goat pneumonia, it is difficult to guard against any one cause of the disease. Providing a well-ventilated, draft-free environment with a minimum amount of stress will go far toward preventing pneumonia.

Treatment—Due to the wide range of causes of pneumonia, no treatment will be effective in all cases. If you suspect that your goats have pneumonia, ask your veterinarian about treatment. The most important things are to begin treatment as early as possible and to follow your veterinarian’s instructions completely.

Soremouth

Signs—Soremouth mainly affects the mouth and lips of goats, though other areas of broken skin may be affected. Soremouth is often passed from a kid to its dam's udder. The disease can also spread from goat to human. The sores that are characteristic of the disease develop scabs, which fall off after 2 or 3 weeks.

Prevention—A vaccine against soremouth is available. Ask your veterinarian about it.

Treatment—Consult your veterinarian for the best way to treat a goat infected with soremouth. It is essential that you wear rubber gloves when working with an infected goat, because people can also become infected with this disease. You must also wash your hands carefully afterward.

Internal Parasites of Goats

Special care must be taken to keep the internal parasite load of your goats under control. Your control measures should include a routine treatment for internal parasites every 3 months. Use a different wormer each time to kill the wide variety of internal parasites that afflict goats. Be sure your wormer rotation includes one that kills tapeworms. Using different types of wormers also ensures that the parasites won't build up resistance to a particular type or brand. Work with your veterinarian to decide which wormers will work best for your goats.

Coccidia

The coccidia is a single-cell parasite that all goats have all their lives. The coccidia organism that afflicts goats is species-specific, which means it is a type found only in goats. Even though all goats harbor coccidia, not all goats come down with coccidiosis, the disease caused by the coccidia organism.

Coccidiosis is probably the primary cause of reduced growth rates in goat kids. The disease usually occurs when the animal has been stressed. This may take place during weaning, shearing, transport or even when the goat is chased by a predator (such as a dog or coyote).

Coccidiosis can be treated by adding the appropriate drugs to the goats' drinking water or by using them as a drench. Coccidiostats can be mixed in the goats' feed to prevent coccidiosis. Consult with your veterinarian to determine the best products to use and the best way to administer them.

External Parasites of Goats

Lice

Lice are small insects that bite animals and then suck their blood. Lice irritate the goat's skin, causing it to itch constantly. Irritation caused by these parasites makes goats restless and may decrease their feed intake and growth rate.

Sometimes goats get their teeth or horns caught in their hair when they are scratching lice. Once hooked that way, the goat can't eat or free itself. Always check any

goat that is holding its head at a strange angle to see if its teeth or horns are caught in its hair.

Since lice are hard to see, you must constantly be alert for them. Check your goats frequently. Malathion and Ectrin are chemicals used to control lice. For effective control of lice, several applications of one of these chemicals (10 to 14 days apart) may be necessary (see fig. 12). If your herd is infested with lice, you can't rely on just one application of insecticide at shearing time. You may need to apply the insecticide a third time if your herd is badly infested. Lice reproduce by laying eggs (called nits) on the host. There are no insecticides that will destroy the nits before they hatch. This is the reason why repeated applications of insecticide may be necessary.

Lice problems **seem** to disappear or be greatly reduced after the goats are sheared, but you can't count on this. If not properly treated, lice populations will quickly build back up.

Maggots

Animals with heavy coats (such as Angora goats) are susceptible to maggot infestations during the summer months when fly populations peak. Flies lay their eggs in cuts or in wet areas. This includes the urine soaked fleece at the rear of does or on the belly of male Angoras. Males should also be checked regularly for maggots and infections around their prepuce and penis areas. Any wet area in the fleece should be examined regularly for maggots, sheared and screw worm spray applied to it. The spray will kill maggots and keep flies away from the treated area.

Figure 12. Treating a freshly shorn Angora goat for lice, starting at the head and working back.



Control

The most efficient way to control any external parasite in large Angora herds is by dipping each animal. Of course you may not have a large enough herd to justify building and using a dip tank. In that case, the next best way to control external parasites is to spray your goats with a fairly high pressure insecticide spray. Other (less effective) measures include powder, pour-on and injectible insecticides.

No systemic insecticide used to control internal parasites will control biting lice.

Insecticides are strong chemicals. It is important for you to work with your veterinarian and to follow the manufacturer's directions on the label of any insecticide you use. Most insecticides are available in sprays, wettable powders or dust preparations. Some are applied directly while others are mixed with water before application. Be certain

to mark containers clearly and store these chemicals safely. Avoid accidental poisoning.

Other Health Problems

Enterotoxemia

Signs—Enterotoxemia is commonly known as overeating disease. It is most common in young kids; however, goats of any age may develop the disorder. Kids less than 2 weeks old or weaned kids on high energy diets are especially prone to enterotoxemia.

The first sign of enterotoxemia is usually the sudden death of a very well-conditioned kid. The symptoms in adult goats are diarrhea and nervous movements. Death can occur within several weeks.

Prevention—A vaccination is effective against this disease. Goats should be vaccinated against enterotoxemia at birth.

Treatment—Consult your veterinarian for the best way to treat this disease.

Hoof Rot

Signs—Hoof rot can occur in any hooved animal. It usually affects animals that are kept in muddy, wet or unsanitary conditions. Lameness, a strong foul smell from the hooves and fever are the major symptoms of hoof rot.

Prevention—Periodic trips through foot baths containing copper or zinc sulfate or formalin solutions can help prevent hoof rot. Foot baths can be placed at the barn en-

trance so that the goats must pass through them regularly on their way in and out of the barn.

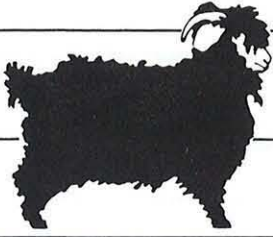
Treatment-The traditional treatment for hoof rot is to trim the hoof closely to remove all overgrown areas. Next a topical treatment of copper or zinc sulfate is applied and antibiotics are administered to treat any infections. The foot baths described in the prevention section above can also be an effective treatment.

Poisoning

Signs-Goats are intelligent animals and will normally stay away from poisonous plants. They will, however, eat poisonous plants when better forage becomes scarce. Less than 10 percent of the suspected poisoning incidents in Angoras are actually the result of eating harmful plants. The other 90 percent of the time, the “poisoning” is actually due to parasite infestations, poor nutrition or management problems. Work with your veterinarian to identify the source of any suspected poisoning. Signs to watch for if you think your animal has been poisoned include vomiting, frothing at the mouth, staggering or other uncoordinated movements, or convulsions.

Prevention-Goats are browsers by nature, and like to feed on most brush and evergreen trees. They can even eat fresh wild cherry leaves and branches, which are poisonous to most other livestock. The best prevention methods are to clear poisonous plants from your pastures and to practice sound management, proper parasite control and proper nutrition. Plants that are known to be poisonous to goats include Japanese yews, nightshade, wilted wild cherry leaves and branches, rhubarb leaves, white snakeroot and most ornamental plants.

Treatment-Because there are so many possible causes of poisoning, you will have to work closely with your veterinarian to treat any case of poisoning.



Exhibiting Your Goats

You and other members of your club may want to exhibit your Angora goats at your county or area fair or show. This is often a requirement of your 4-H project. Showing your goats should be a pleasant experience for you; however, it is only one part of your project.

It is perfectly normal for you to want to win and to feel badly if you don't. The important thing to remember is not to let the results of the show spoil what otherwise would have been an enjoyable experience in your 4-H project.

In order to exhibit your goats properly and to enjoy your experience in the show ring, you must begin preparing for the show when you start your project. Your goats must be healthy and free from internal and external parasites. They must be fed at the proper rate so that they will show the proper weight for their age.

Next, you must begin training them several weeks before the show. Train them to move easily at a walk. Have your 4-H leader or parent act as a judge while you are training your goats. This will help both you and your goats know what to expect when the actual judging takes place at your fair or show.

Grooming Your Goats for Show

Grooming is just as important as training when getting goats ready for show. Proper grooming improves the general appearance of a goat.

Your goat's general appearance is the first thing a judge notices about it. This first impression is important because it has some bearing on where the goat is placed in its class. Attention to detail can be the key to winning or losing a fitting and showing contest.

General Preparations

Feed your Angoras their regular ration before a show. Sudden feed changes may make your goats go off feed or develop scours.

Show animals should have access to shade or be kept inside during the day and let out to feed at night so that the sun doesn't bleach out their fleeces. Exposure to rain and sun can cause the mohair along a goat's back to develop a "fly away" look. Judges will deduct points from animals with such an appearance.

Cleaning

Angora goats should never be given full baths. Washing removes the lanolin from the mohair and makes it dry and "fly away." Just spot clean the goat's face, ears, feet and legs with a damp cloth. Give

special attention to your goat's underline and the area between its legs. Use a damp cloth to remove excessive lanolin and dirt you find there.

Remove wax and dirt build-up from inside the ears with a paper towel. A little bit of baby oil on the paper towel will make cleaning easier and prevent the goat's delicate ear tissue from being irritated. Make sure the numbers on your goats' ear tags are plainly visible and easy to read. Clean off any dirt or manure that has stuck to the tags.

Trim and polish your Angoras' hooves. Sand smooth any rough edges or cracks in the goats' horns. Polish the horns with light oil, but be careful not to get the oil on the goat's hair.

Your goats must be completely free of lice. Goats with lice will be disqualified from the show ring.



Clipping

Trim off any urine stained hair on the rear of your Angora does about 2 months after the regular shearing. If the stained hair is left to grow the same length as the other hair, the stain will spread and more hair will be discolored. (This problem will be worse during the summer if your goats are on fresh pasture.) Make sure the fleece is free of chaff and straw.

Carefully separate any matted locks of hair, but don't get too carried away. You shouldn't do anything to disturb the general character of the fleece.

In the Show Ring

The following are generally accepted procedures in exhibiting your goats.

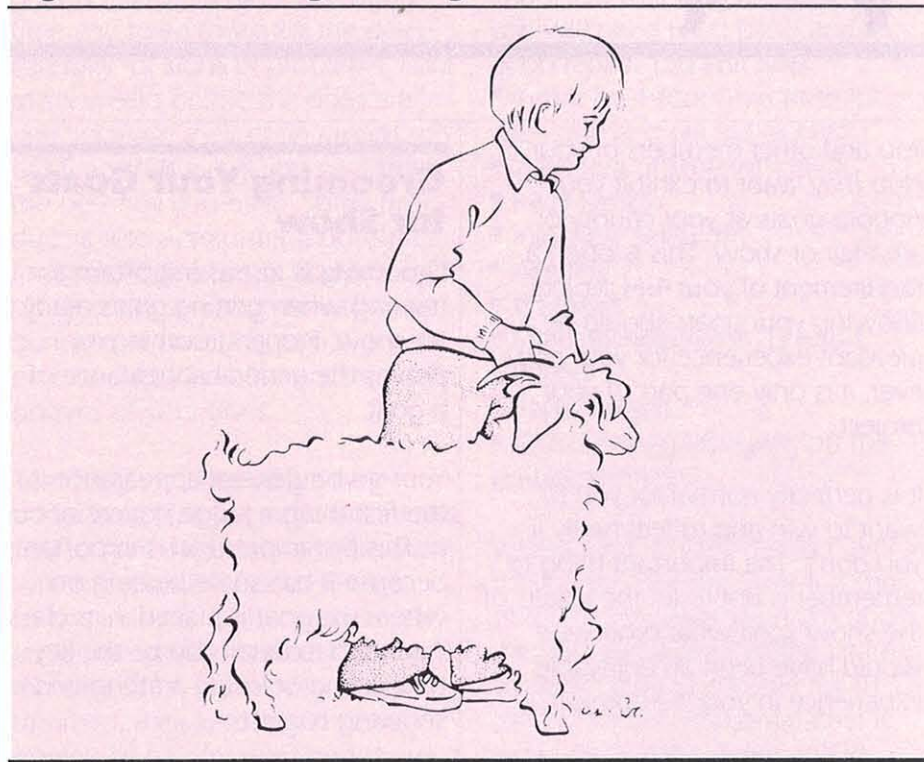
Your Personal Appearance

You should be neat, clean and appropriately dressed for the occasion. Dark pants and a white shirt would be suitable for showing your Angora goats. Expensive or elaborate clothing is not preferred over neat, clean, more conservative apparel. Don't forget to securely fasten your exhibitor number to the back of your shirt.

Your Goat's Appearance

Goats should show proper size for age, indicating an acceptable growth rate. Goats should be healthy and free from internal and external parasites. Your goat should be prepared for the show ring following the steps outlined in the sections of this manual on grooming and cleaning.

Figure 13. Entering the ring.



Show Ring Procedures

Enter the ring promptly when your class is called with the goat under control at all times. Showing your goat to its best advantage is the first requirement of you as a good exhibitor. You must know where the goat and the judge are at all times.

Smile! Showing Angora goats is fun and can be very rewarding, but if you don't show it, no one else will ever find that out. Be friendly and courteous to the other exhibitors and the ring officials, but don't be a chatterbox. Keep in mind that you are in the ring to demonstrate the results of your hard work and to show your goat to its best advantage.

Enter and walk around the ring in a clockwise direction (see fig. 13). Stay on the left side of your goat with your left hand holding the

loose skin under the goat's chin. Make sure your hand is on the goat's chin, not its throat, so that you don't choke the animal. Your right hand should be on the goat's left horn. If your goat doesn't have horns, keep your left hand under its chin, your right hand on its rump and move the animal from behind.

Let your animal walk naturally with its head out in front of you. The goat should walk with you quietly and willingly at a slow and easy pace. Do your best to keep the animal's back straight and head up whether you are walking or standing in line. As you lift the goat's chin to keep its head up, try not to stretch its head out at an awkward angle. Keep your goat between you and the judge. Never get between the goat and the judge or between a fellow exhibitor's goat and the judge.

The judge will probably want to get a look at your goat from the front, rear and both sides. To do this, he or she will probably ask you to pull your goat into a line and set it up.

When lining up, walk your goat into line. Keep your goat even with the first goat in the line. Don't go off by yourself or start a new line unless the judge asks you to. Keep your goat in line and as quiet as possible. Stand or kneel to the left of your goat with its head in front of you. Don't neglect your goat, but remember to keep one eye on the judge. Make sure your goat is set up properly at all times and is showing to its best advantage.

You may choose to show your goat while kneeling or standing. Base your decision on your own strength and the size and disposition of your goat.

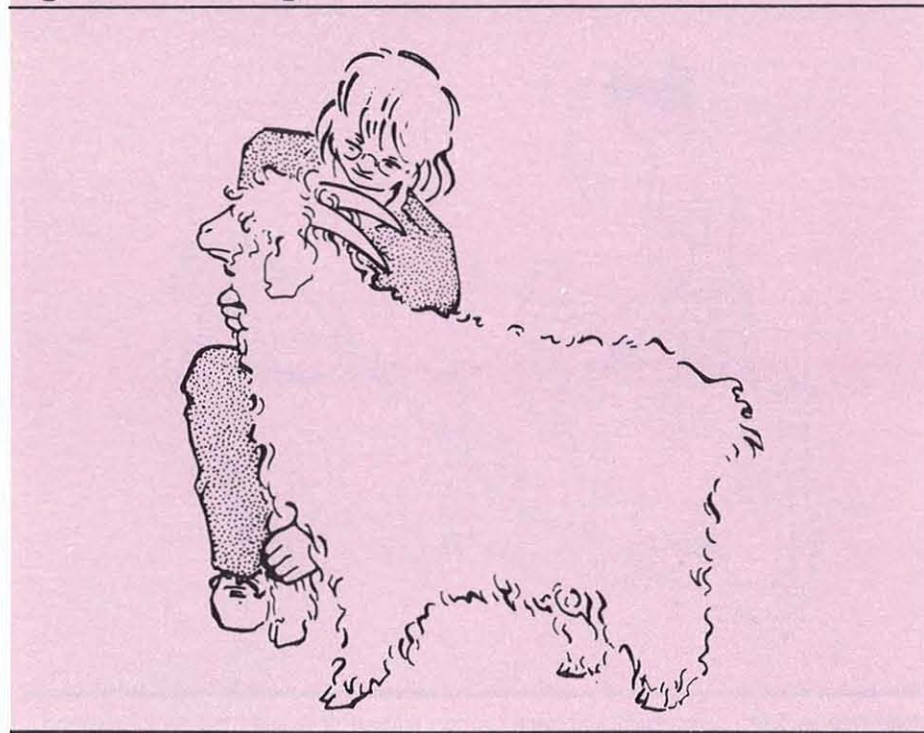
Whatever you decide, stay alert! If your goat makes a sudden move while you're off balance or not paying attention, it could escape.

Set up your goat by placing its feet so that they are directly under the "four corners" of its body. Standing your goat in this position gives the judge a clear view of the width of the goat's chest and hindquarters.

To set the front feet, lift one foot at a time by grasping the forearm close to the goat's pastern and lifting upward (see fig. 14). (It's best to move the feet by reaching under the goat.) Then let the goat settle its weight onto the hoof.

Set the goat's hind legs from its left side. Reach under the goat with your right hand. Grasp one leg between the hock and pastern and lift. Next guide the hoof into place

Figure 14. Setting the feet.



and let the goat settle its weight onto that hoof. Then place the goat's other rear leg.

Some goats are so big that you can't reach their hind legs when you're holding their heads. Others simply don't like you to touch their legs. If either of these situations applies to your goat, place its legs by gently pushing on its hindquarters. This will force it to shift its weight and its feet.

Once you have your goat's feet set, don't let it relax too much. Relaxed goats tend to slouch and chew their cud, which means they won't look their best. If your goat is nervous and jumpy, scratch it lightly under the chin and talk to it softly. Just be sure that you don't disrupt the other exhibitors in the class with your attempts to keep your goat either calm or awake.

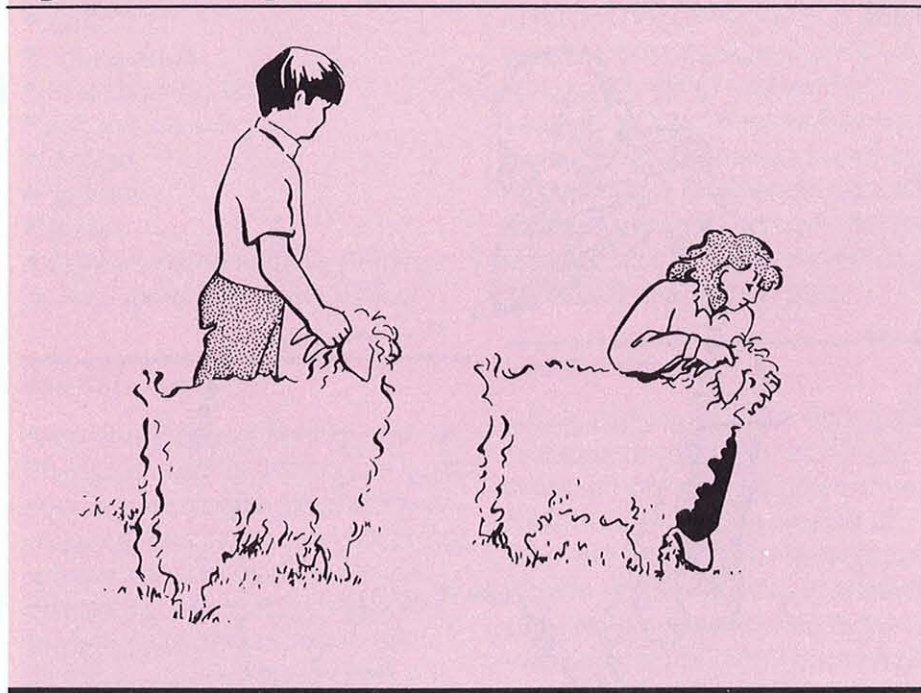
As the judge walks down the front of the line, make sure your goat's front feet are set correctly and its head is up. Give the judge a clear view of your animal for as long as he or she wishes. Even after moving on to the next exhibitor in line, the judge may come back or look back at you and your goat, so pay attention.

As soon as the judge starts toward the rear of the line, check the position of your goat's rear feet again.

Eventually the judge will ask you to turn your goat head-to-tail with the other goats for a side view. Do this as quickly and as quietly as possible. Be sure to leave a safe distance between you and the other goats in line (see fig. 15) on page 28.

It's important to keep your goat still while the judge is examining it. Some goats try to push forward while they're standing in line or

Figure 15. Lining up head-to-tail.



while the judge is examining them. To keep such a goat in place, stand directly in front of it and maintain gentle but firm pressure on its chest with your knee. This will keep the goat still and should prevent it from jumping forward when the judge examines its fleece and conformation.

If your goat moves while it's being handled (and most do), reposition its feet when the judge stands back for a final look. Don't try to move the feet or reposition your goat while the judge is still handling it. Your job during the inspection is to keep the goat as quiet as possible and under control. This allows the judge to do his or her job quickly and easily.

After the judge inspects each goat in the class, he or she will rearrange the line. As soon as the judge points to you, move your goat into the new line and set it up again. If

the judge changes his or her mind about your placing, walk your goat out of the front of the line and up or down the row to your new position. Remember to keep your goat between you and the judge, and try not to block the judge's view of any other animal he or she is considering.

And remember to keep showing until the judge has finished giving reasons and dismissed the class! Many ribbons have been lost by exhibitors who relaxed and quit showing after they were placed in the final line.

Good Sportsmanship

Keep the following points in mind while showing and prove to one and all that you're a good sport!

- Give other exhibitors all the courtesies and advantages you would like others to give you.
- Don't block the judge's view of the goat next to yours.

- If you must stand in the judge's way during a class, block your own goat from view before you block the judge's view of someone else's goat. Most judges will help you out of awkward situations and will appreciate your consideration.

- Try not to bump or let your goat bump the goats or exhibitors standing on either side of you. Don't let your goat bite the animal in front of it or kick the one behind it.

- If you don't happen to win the class, always remember to congratulate the winner. A loser who can smile after a loss may be a bigger, stronger person than the person who can smile only after winning. If you're the winner, accept the congratulations of the other competitors graciously.

- Be friendly and courteous to the judge and try to do as he or she asks. After the goats have been placed, give the judge a quiet "thank you." It's all right to disagree with the judge, since no two people see things exactly alike, but keep your disagreement to yourself.

- Show your respect for the judge. Remember that the judge's decision is not a personal statement of your worth as an exhibitor. He or she has been hired to give his or her opinion of all the goats in the show. Most judges try very hard to make impartial decisions.

- Remember, it's your job to believe that your goat is the very best animal in the show ring and to present it to the judge and spectators that way. But the value of your 4-H project animal is not where it places in the show ring. The real value of your 4-H project animal lies in what you learn from caring for and learning about it.

Suggested Guidelines for Angora Goat Showmanship

In 4-H Angora goat showmanship classes, the exhibitor is being evaluated. This evaluation includes indications of the care, attention, training and preparation given the animal, and the appearance of the exhibitor.

	Perfect Score
Appearance of the Exhibitor	10
<ul style="list-style-type: none">▪ The exhibitor should be neat and clean. He or she should be appropriately dressed for the occasion. Leather boots or shoes should be worn for protection.	
Appearance of the Goat	40
<ul style="list-style-type: none">▪ The goat should be clean and properly groomed. The mohair should be as free from stains as possible. Special attention must be paid to the ear, nose, leg, feet and tail areas.▪ Animals should be healthy and free from external parasites.▪ Hoofs should be trimmed and shaped to enable the goat to walk properly.	
Show Ring Procedures	50
<ul style="list-style-type: none">▪ The exhibitor should enter the show ring promptly with the goat under control at all times. Safety and showing the goat to its best advantage take precedence over all other things.▪ When moving the goat, the exhibitor should show from the animal's left side with his or her left hand under the animal's chin and right hand on the left horn.▪ Exhibitors should never do anything that will distract attention from another exhibitor's goat.▪ Exhibitors should be courteous to the judge and try to do as the judge asks.	
	100

Angora Goat Type Scorecard

	Perfect Score
Body	50
<ul style="list-style-type: none"> ▪ Size and Weight for Age <ul style="list-style-type: none"> -Yearling buck minimum 80 pounds -Yearling doe minimum 60 pounds 	11
<ul style="list-style-type: none"> ▪ Constitution and Vigor <ul style="list-style-type: none"> -Width and depth of chest -Fullness of heartgirth -Spring of ribs 	11
<ul style="list-style-type: none"> ▪ Conformation <ul style="list-style-type: none"> -Width and depth of body -Straightness of back -Width of loin -Strength of back 	12
<ul style="list-style-type: none"> ▪ Amount of Bone <ul style="list-style-type: none"> -Size of bone below knee and hock -Clean and in proportion to size of animal -Strength of feet and legs 	8
<ul style="list-style-type: none"> ▪ Breed Type <ul style="list-style-type: none"> -Head -Horns (if the goat has horns, they should spiral outward and go back; they should be set wide on a buck) -Ears -Color -Markings (small face freckles are not objectionable) 	8
<ul style="list-style-type: none"> ▪ Physical Disqualifications <ul style="list-style-type: none"> -All blue or black horn or hoof -Deformed mouth or feet -Broken down pasterns -Crooked legs (including cow hocks) -Divided scrotum or abnormalities of testicles -Close set, distorted horns -Sway back 	
Fleece	50
<ul style="list-style-type: none"> ▪ Length should be equivalent to 1-inch growth or more a month, uniform over body, heavy and high yielding 	
<ul style="list-style-type: none"> ▪ Freedom from Kemp 	10
<ul style="list-style-type: none"> ▪ Uniformity-Type of lock and covering 	5
<ul style="list-style-type: none"> ▪ Completeness of Covering-Adequate covering over entire body, including face 	5
<ul style="list-style-type: none"> ▪ Luster and Softness-Good, bright type mohair 	9
<ul style="list-style-type: none"> ▪ Density-Number of fibers in an area 	8
<ul style="list-style-type: none"> ▪ Fineness-Uniformity of fineness of entire fleece 	9
<ul style="list-style-type: none"> ▪ Character-Uniform lock over entire body 	4
<ul style="list-style-type: none"> ▪ Fleece Disqualifications <ul style="list-style-type: none"> -Excessive kemp -Colored hair -Sheepy fleece -Straight beard type hair in foretop or on back 	

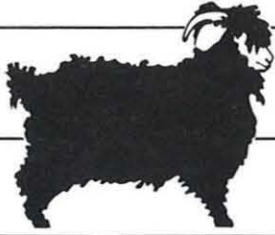
Angora Goat Mohair Judging Placing and Reasons Sheet

Goat Name or Number _____ Class Number _____

Placings: 1st _____ 2nd _____ 3rd _____ 4th _____

Reasons (list the fleece number which matches the description below):

Fleece Description	Number
Finest	_____
Coarsest	_____
Most uniform fineness	_____
Longest staple	_____
Shortest staple	_____
Most uniform staple length	_____
Brightest luster	_____
Greatest sheen	_____
Heaviest grease weight	_____
Most pounds of clean mohair	_____
Most vegetable matter	_____
Most stained mohair	_____
Most kemp	_____
Reasons score _____	
(50 points possible; deduct 3 points for each incorrect answer)	
Placing score _____	



Marketing

Angora goat producers, like other business operators, are working to produce and sell a top quality product. The goal of the Angora industry is to raise goats that produce large quantities of high quality mohair. In order to properly market your mohair and goats and decide on a fair price for them, you must be able to determine their quality.

Selling Your Goats

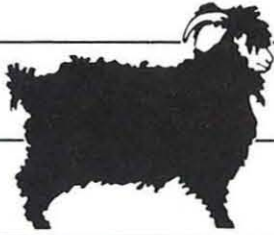
The main market for raw mohair in the United States is in Texas. Most raw mohair is shipped from there to England, France and Germany for processing into yarn and then into finished garments or other products.

The price mohair brings fluctuates according to the world market. Since you probably only have a few goats, you probably won't have large quantities of mohair to sell. The best markets for small producers like most 4-H'ers are private spinners and weavers in the local area.

Your county fair or show may have a mohair sale. If you sell your mohair by this method, check with your 4-H leader about the market price Angora producers are receiving for mohair of similar weight and quality. If you receive more than this amount, it is due to the generosity of the person who bought your mohair. You should consider it a reward for your efforts and not the true value of the mohair.

Many 4-H clubs find it advantageous to promote their county fair sale. You can promote your sale by visiting or sending letters to local businesses asking them to bid on your mohair or goats. You can promote your auction by holding a buyer appreciation banquet after the sale as a special way of thanking your buyers. You, your fellow club members and club leader probably can think of more ways to increase community support for your livestock auction.

Send a thank-you letter to the buyer of your 4-H goats or mohair as soon as you get home from the show. This lets the buyer know his or her efforts are appreciated and encourages him or her to support future sales. It is also a good idea to thank your show and sale officials for their efforts in organizing a good show and sale for you. Also remember to thank your 4-H leader, parents and county 4-H staff for all their help during the year.



Other Activities

Demonstrations and Illustrated Talks

Giving a demonstration or illustrated talk literally means getting up in front of a group and demonstrating or illustrating something from your project. You learn from the preparation and practice, and your audience learns from your presentation. It teaches you to speak and express yourself in front of a group.

You can give demonstrations and illustrated talks to your local club, at the county or state fair, or in a national contest. You might also give one at a community meeting or on television. Some topics for your demonstration or talk might be:

- How to select an Angora goat.
- The parts of a goat.
- The nutritional requirements of goats.
- How to prepare a diet for goats.
- How to control parasites in goats.
- Breeding and raising Angora goats.
- Fleece characteristics.

You and your 4-H leader can think of many other topics.

Public Speaking

Giving a speech on some phase of goat production will help you learn to express yourself and will give you a chance to learn more about goats. You may want to pick a topic you don't know much about to

increase your knowledge. Some topics for your speech might be:

- The Angora goat industry in Michigan.
- The importance of goats to the American people.
- The clothing value of mohair.
- By-products of goat production.
- Breeds of goats.
- Why I chose an Angora goat project.

Judging

Livestock judging will help you learn to observe, evaluate and make decisions. It will also give you a chance to see good livestock and to meet other 4-H members. Delivering oral reasons will help you learn to express yourself.

Fitting and Showing

Fitting and showing teaches you to prepare and show an animal and yourself. It teaches you to be a good exhibitor in and out of the ring, and it encourages good sportsmanship.

4-H Camp

Participating in a variety of 4-H activities will make you a well-rounded 4-H member. One such activity is 4-H camp, which is fun and provides an opportunity for you to meet other 4-H members in your county.

4-H Trips and Tours

Following are some trips and tours your group might take:

- A tour to each of the 4-H members' homes to observe their project goats.
- A visit to the animal science farms and laboratories at Michigan State University.
- A trip through a feed manufacturing plant or a local elevator. If possible, have one of the nutritionists discuss how the livestock diets being produced are formulated.
- A visit to the farm of a purebred goat breeder. Have the breeder explain what he or she is doing and why.
- A visit to one or more of the goat breed association field days that are scheduled each summer.
- A visit to a mohair producing plant or retail mohair outlet. The visit should emphasize the fleece desirability of the mohair being processed. Have one of the officials explain the importance of a good fleece.
- A visit to a large livestock show or sale. Observe any new developments that are being used, such as computer tracking of price trends.

4-H Animal Science Week and 4-H Caprine Expo

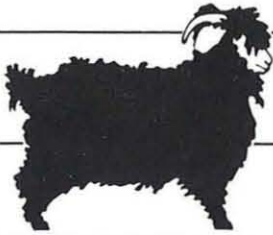
Attend 4-H Animal Science Week and 4-H Caprine Expo at Michigan State University. These events give you an opportunity to test your

abilities in many livestock-related areas such as evaluation and judging, quiz bowl and livestock photography. It also gives you a chance to meet 4-H'ers involved in goat and livestock projects from around the state. You could also exhibit your goats at the 4-H Caprine Classic, which is held during 4-H Animal Science Week at MSU.

Careers in Animal Science

Use your 4-H goat project as a way of exploring careers in animal science. Many careers, such as farm manager, mohair buyer and veterinarian, involve working directly with animals. Other careers, such as food scientist or clothing designer, allow you to work with animal products.

With the help of your 4-H leader, make a list of all the careers related to goats and animal science. Choose three or four careers from your list and investigate them. You may want to present your findings at your 4-H club meeting so others can benefit from your research.



References

- The U.S. Department of Agriculture publishes a number of bulletins about goats which can be obtained from your county Cooperative Extension Service office. It is listed in your telephone directory under your county name.

- Michigan State University produces numerous publications and supplies audiovisual materials dealing with various phases of goat production. Contact your county Cooperative Extension Service office for this information.

- Other books dealing with goats and livestock in general may be found in your library.

All About Angora Goats and Mohair

E. Dean Edwards
Great Lakes Mohair Company
Litchfield, MI 49252
1987

Angora Goats the Northern Way

Susan Black Drummond
Stoney Lonesome Farms
Freeport, MI 49325
1985

The Complete Angora Book

Jean Ebling
Route 2, Box 43
Marble Fall, TX 78654

Getting Started in Farming on a Small Scale (USDA451)

Cooperative Extension Service
1982

Goat Husbandry

David MacKenzie
Diamond Farm Book Publishers
P.O. Box 537
Alexandria Bay, NY 13607
1980

The Goat Keepers Veterinary Book

Peter Dunn
Diamond Farm Book Publishers
P.O. Box 537
Alexandria Bay, NY 13607
1982

Management and Diseases of Dairy Goats

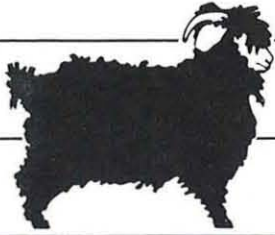
Samuel B. Guss, DVM
Dairy Goat Journal
P.O. Box 1808
Scottsdale, AZ 85252
1977

Nutrient Requirements of Goats

National Research Council
National Academy Press
2101 Constitution Avenue, NW.
Washington, DC 20418
1981

Official Grease Mohair Standards Official Mohair Top Standards

U.S. Department of Agriculture
Livestock Division, Wool and Mohair Laboratory
Denver Federal Center, Building 81
Denver, CO 80225



Registries and Breed Associations

The following is a list of goat registries and breed associations where you can get information about Angoras and other goat breeds. Most have excellent youth books that will help you in your project.

American Angora Goat Breeders Association

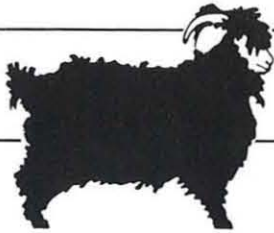
P.O. Box 195
Rock Springs, TX 78880

Angora Goat Record and Registry of North America

Genetic Recovery Program
1451 Sisson
Freeport, MI 49325

Mohair Council of America

Fred R. Campbell, Executive Director
516 Central National Bank Building
P.O. Box 5337
San Angelo, TX 76902



Glossary

Amino acids—small compounds that are the building blocks of proteins

Body proteins—amino acids linked together to form protein molecules which make up muscles, skin, internal organs, bones, horns, blood, hair and hooves

Calcium—a macromineral goats need to build bones and teeth and to support other life processes

Cow-hocked—undesirable crooked hind legs

Crimp—the waviness in a lock of mohair

Crotching—trimming the hair in a doe's crotch (around the udder and tail) so that kidding is cleaner and the kid can find a teat more easily

Diet—nutritionally balanced mixture of feed ingredients

Dietary proteins—proteins used in feed ingredients that are used by goats as a source of amino acids

Essential amino acids—amino acids that must be present in the diet because goats can't make them in their bodies

Fats—a dietary compound that supplies energy for the goat and aids in digestion of certain vitamins

Fleece—the hair or wool on an animal

Flushing—the practice of feeding extra grain to does for 2 weeks before and 3 or 4 weeks into the breeding season; has been shown to increase the number of multiple births

Free-choice—a feeding system that offers feed ingredients cafeteria-style to the goat

Growth rate—rate of weight gain

Herd—group of goats; also called a trip

Kemp—straight, chalky white, brittle hair; very undesirable

Macrominerals—minerals required by the goat in relatively large amounts because they make up the largest percentage of minerals in the goat's body

Microminerals—sometimes called trace minerals because they are required in very small amounts by the goat

Minerals—elements required by the goat to build bones and teeth and to support other life processes

Mothering-up—the process of bonding between doe and kid

Mutton—a castrated male goat; also called a wether

Nutrient dense diet—a feed that contains high concentrations of the required nutrients, such as amino acids, minerals and vitamins

Pneumonia—inflammation of the lungs that results in breathing difficulties

Protein—a dietary nutrient that supplies amino acids to the goat

Protein supplement—an ingredient of goat diets that supplies protein, vitamins and minerals to the goat

Ration—the amount of feed consumed by a goat in one day

Sheepy fleece—undesirable mohair with woollike qualities; also called spongy or wooly fleece

Spongy fleece—undesirable mohair with woollike qualities; also called sheepy or wooly fleece.

Staple length—the length of individual locks of mohair

Stained hair—orange brown, urine stained mohair

Trace minerals—minerals required by goats in very small or trace amounts; often called microminerals

Trip—a herd or group of goats

Vitamins—dietary nutrients needed in very small amounts for the health of eyes, nasal passages and lungs, for strong bones, for blood clotting and for other body functions

Weaning—separating a nursing kid from its doe

Wether—a castrated male goat; also called a mutton

Wooly fleece—undesirable mohair with woollike qualities; also called sheepy or spongy fleece



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