

EXPLORE



Texas 4-H Sheep & Goat Projects *Exploring Market Market & Breeding Sheep & Goats*



texas4-h.tamu.edu

The members of Texas A&M AgriLife will provide equal opportunities in programs and activities, education, and employment to all persons regardless of race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity and will strive to achieve full and equal employment opportunity throughout Texas A&M AgriLife.



EXPLORE

TEXAS 4-H SHEEP & GOAT PROJECTS



Description

The Texas 4-H Explore series allows 4-H volunteers, educators, members, and youth who may be interested in learning more about 4-H to try some fun and hands-on learning experiences in a particular project or activity area. Each guide features information about important aspects of the 4-H program, and its goal of teaching young people life skills through hands-on experiences. Additionally, each guide contains at least six learning experiences, which can be used as a project guide, or as activities for six different 4-H meetings.

Purpose

Texas 4-H is designed to develop the youth of our state into productive adult citizens. The 4-H Program uses a non-formal educational process of engaging youth in a "learning by doing" process. This includes hands-on opportunities, participation in workshops and clinics conducted by volunteer leaders or professionals, as well as competitive experiences which allow 4-H members to demonstrate the knowledge they have gained. Through this entire process, the youth are learning key life skills such as working with others, teamwork, cooperation, and goal setting. Through all experiences, youth get to interact with adult volunteers and county Extension agents.

What is 4-H?

4-H members across the nation are responding to challenges every day in their communities and their world.

As the youth development program of the Cooperative Extension System of land-grant universities, 4-H is the nation's largest youth development organization, empowering six million young people throughout the United States. Cooperative Extension of 1862 and 1890 land-grant universities provide leadership to engage young people in 4-H in all 3,007 counties of the United States. The impact of the Cooperative Extension partnership is profound, bringing together National Institute of Food and Agriculture of USDA, land grant universities and county government to resource learning opportunities for youth.

Through America's 110 land-grant universities and its Cooperative Extension System, 4-H reaches every corner of our nation—from urban neighborhoods to suburban schoolyards to rural farming communities.

With a network of more than 6 million youth, 600,000 volunteers, 3,500 professionals, and more than 25 million alumni, 4-H helps shape youth to move our country and the world forward in ways that no other youth organization can.

Texas 4-H

Texas 4-H is like a club for kids and teens ages 5-18, and it's BIG! It's the largest youth development program in Texas with more than 550,000 youth involved each year. No matter where you live or what you like to do, Texas 4-H has something that lets you be a better you!

You may think 4-H is only for your friends with animals, but it's so much more! You can do activities like shooting sports, food science, healthy living, robotics, fashion, and photography.

Look for 4-H clubs at your school, an after-school program, a community center, or even on a military base or through the reserves for military families.

Texas 4-H is part of the Texas A&M AgriLife Extension Service and the Texas A&M System. Founded in 1908, 4-H is the largest youth development program in Texas, reaching more than 550,000 youth each year.

The 4-H Motto and Pledge

"To Make the Best Better!"

I pledge: My HEAD to clearer thinking, My HEART to greater loyalty, My HANDS to larger service and My HEALTH to better living, For my Club, my Community, my Country, and my world.

Participating in 4-H

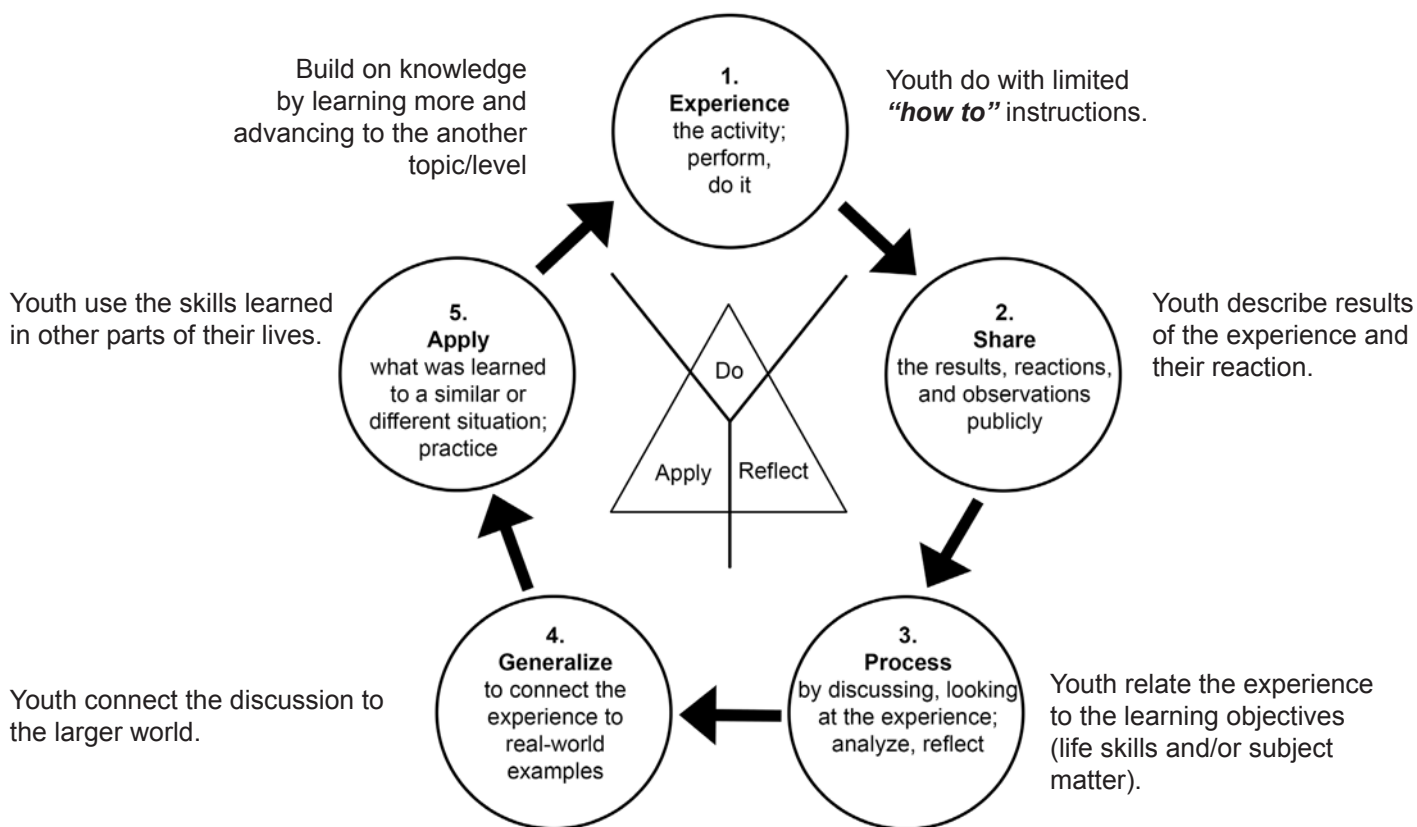
4-H is a great program because it provides options for young people to participate. From a 4-H club located in your community, a SPIN club that focuses on one particular project area, or participating in 4-H through your classroom at school, 4-H allows youth to learn in many different environments. If you are interested in joining 4-H, contact your County Extension Office and ask for a list of the 4-H clubs in your area. If you are a school teacher/educator and would like to use 4-H curriculum or these project guides in your classroom, contact your Extension Office as well for assistance.



4-H “Learning by Doing” Learning Approach

The Do, Reflect, Apply learning approach allows youth to experience the learning process with minimal guidance from adults. This allows for discovery by youth that may not take place with exact instructions.

EXPLORE THE CONTENT Introduction of the topic, overview and exploration of content, and review of objectives



4-H SHEEP & GOAT PROJECTS *Lessons*



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EXPLORE
Sheep & Goat Project

Lamb and Goat Selection



EXPLORE THE CONTENT:

The selection of your lamb or goat is one of the most important steps in ensuring a successful project result. There are numerous aspects to consider when selecting your project, such as the species, age, breed, and quality of the animal as well as the goals of the exhibitor. The selection process is crucial to your projects' success. Selecting a high-quality animal is not always the easiest, and is certainly not the most inexpensive, component of the livestock project experience. Knowing the basics of selection, however, can be a vital step in ensuring project success.

Age

When selecting a livestock show animal, age can be one of the most critical criterion. Market lambs and goats are normally weaned and sold at two to three months of age and shown at ten to fourteen months. On the other hand, breeding sheep and goats can be purchased at any time. Most major livestock shows in Texas divide the breeding sheep and goats into three divisions. The first division is the ewe lamb/doe kid class. To qualify in this class, lambs and goats must still carry all of their milk teeth; normally these animals are younger than one year of age. The second division, or the two-tooth class, requires sheep and goats to show one or both teeth of their first pair of permanent incisors. Lastly, the aged division consists of those sheep and goats that carry more than one pair of permanent incisors.

Breeds

The next step in selection is determining what breed of sheep or goat to show. Most major market lamb shows offer five breed categories. These include: Finewool, Finewool Cross, Southdown, Dorper, and Medium Wool. Finewools can be a Rambouillet, Delaine, Debouillet, or a cross between these breeds. Finewool Crosses must have at least fifty percent of a finewool bloodline, crossed with a Hampshire, Suffolk, or cross between these breeds. Hair sheep can be Dorper, White Dorper, or a cross between them. Finally, medium wools consist of anything that classifies out of the other breeds, along with Hampshire and Suffolk breed types. Always check with the livestock shows preliminary rules for classification guidelines. The market goat show consists of any meat goat breed, but normally all market goats shown are Boer goat type.

Breeding sheep are separated based on individual breeds. These breeds include, but are not limited to: Rambouillet, Southdown, Dorset, Dorper/White Dorper, Hampshire, and Suffolk. Breeding goats most often shown, much like the market goat show, are

TIME:

60-90 minutes

MATERIALS NEEDED:

Guidance from County Extension Agent, Agricultural Science Teacher, Livestock Mentor, 4-H volunteer, or Livestock Ambassador is recommended.

Explore Activity

- Poker Chips
- Two Buckets
- Microphone and Sound System (Depending on Audience Size)
- Rope or Chalk to Create Barriers for Contestants
- Livestock (if possible)

OBJECTIVES:

The 4-H member will:

- Learn the selection criteria for lamb and goat evaluation.
- Be able to select lambs and goats for livestock shows or breeding purposes.
- Learn various breeds of sheep and goats.
- Understand various methods for purchasing sheep and goats.
- Investigate age requirement common with livestock shows.



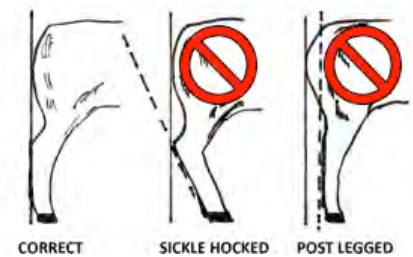


Boer goats. Another breeding goat show that is offered by shows in Texas is the breeding Angora show. The weather dam/doe shows are not breed-specific; therefore, any breed of lamb or goat is eligible to participate in these shows. All sheep, as well as goats, are shown together and separated into divisions based on age and regardless of breed type.

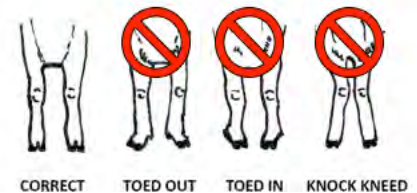
Criteria for Selection

Depending on the show, when it comes to selection criteria, there are several factors that come into play in selecting the right animal. Although, there is no such thing as a perfect animal, it is important to know how to properly evaluate these animals with desirable criteria in mind.

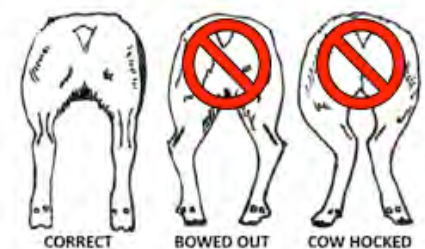
For market lambs and goats, muscle evaluation is one of the most important factors in ensuring the quality of your project. Muscle is evaluated in lambs and goats down their top, from the side, and from behind. These animals should handle firm and wide over their rack, across their loin and throughout their hip. From behind, lambs and goats should be wide from stifle to stifle, deep twisted, and offer an adequate amount of muscle shape and expression. When evaluating younger, thinner lambs and goats, the forearm is the most accurate depiction of how much muscle that lamb or goat may have at maturity. Another good indicator of true muscle shape is how wide the animal is underneath and how wide it tracks. Generally, wider-based animals tend to be more heavily muscled than narrow-based animals. Lambs and goats should be wide through their chest and carry that width and dimension throughout. Ideally, bolder-ribbed animals are generally wider throughout their skeleton and ultimately have the potential for more rack shape.



Along with muscle, structural correctness is also an important evaluation characteristic. Proper skeletal makeup or bone structure in these animals is desired and can vary in degree of correctness. Lambs and goats should be straight and square on both ends of their skeleton, the lambs/goats neck should come out of the top side of their shoulder, and they should be long and level from hooks to pins. All four feet should be pointed forward, avoiding toeing in or out. When evaluating structural correctness, look for the animal to cover its tracks (back feet should plant in the tracks where the front feet take off), as well as proper hock flexibility avoiding sickle-hocked and post-legged animals. Along with hock structure, from behind, legs should hit the ground straight and forward, avoiding bowlegged and cow-hocked animals. These animals should also be heavy boned and strong in their pasterns, ideally at a forty-five degree angle. Avoid lambs and goats that are weak topped, round hipped, and open shouldered. See structure depictions below to gain a better understanding of front and rear structural correctness.



In terms of breeding stock, it is extremely important for these animals to be able to move and be able to travel to water/feed during the breeding and lambing/kidding seasons. Generally, structural issues only get worse as an animal ages, and ultimately can hinder the production integrity of that particular sheep or goat. The goal of a breeding sheep or goat is to be able to reproduce offspring. As females progress through gestation, weight is continually added, causing stress on the structure of the animal. Thus structural problems are increased and can be detrimental. Structural correctness in rams and billies is also important. These animals must be able to go out and locate the females in estrus and breed them. Because breeding stock are often in large pastures, structural correctness becomes critical for the animals productivity. Finally,





structure is highly heritable. These traits, good or poor, are passed down to offspring.

Lastly, balance is how well the animal ties muscle and structural correctness into an “eye appealing” package. Lambs and goats should be long bodied, clean and smooth throughout their front end, level in their top and underline, and “look like a show animal.” Female breeding sheep and goats are expected to be feminine about their head, neck, and shoulders, and offer a substantial amount rib and body capacity. Balance can also refer to the symmetry of the animal, meaning they should be proportional front to rear and top to bottom.

Weather dam and does are selected on their ability to reproduce show lambs and goats. These animals strive to combine a balance of market and breeding qualities into a structurally sound, adequately muscled, balanced and eye appealing package.

Weight

Market lambs and goats are normally purchased weighing 30-50 pounds. These animals remain on feed for approximately five to eight months and gain one pound of weight per five to six pounds of feed. Final weight is dependent on the frame size and what feed the animal was provided. Ideally, market lamb weight ranges from 110-160 lbs., whereas market goats range from 60-115 lbs. Once again, it is important to have a target weight depending on what show that animal will compete in and be aware of the minimum and maximum weight classifications. Always remember to reference show rules and guidelines prior to the show to be sure the animal will fit within the weight range eligibility.

Breeding animals are not typically shown in weight divisions, however they are evaluated on overall growth and performance.

When and Where to Purchase Lambs and Goats

Market lambs and goats are usually available twice a year, during the fall and spring. Fall born animals are typically born November through January and are ideally sold during late spring and early summer. Spring born animals are usually born late February through early June and sold during late summer and early fall. Breeding sheep and goats can be bought at any time at the producer’s discretion, but be aware of the deadline to get the animal validated and registered with the breed association.

There are three primary methods of purchasing these animals. Private treaty is a traditional way of purchasing and it is the individual selling of lambs and goats by the producer or rancher. Another traditional way is at a public auction, where lambs and goats are sold to the highest bidder. And lastly, a new and evolving way to purchase these animals, is a public online sale. Much like the public auction, lambs and goats in this case are auctioned off and sold to the highest bidder through an online platform. It is important to have a firm understanding of any rules associated with online sales. For example, this online option could include stipulations on pick-up or delivery. Regardless of the method of purchase, livestock exhibitors should communicate with their County Extension Agent or Agricultural Science Teacher for guidance in getting started with the selection process. Many times, these advisors are aware of local auctions or breeders who sell livestock for 4-H and FFA projects.

Validation

State validation is required for market and/or breeding sheep and goats, to be eligible to show at the major livestock shows in Texas. Normally, with the exception of State Fair of Texas validation which is during early summer, sheep and goat validation occurs early to mid-fall. Always be sure to check with your County Extension Agent or Agricultural Science Teacher prior to beginning a livestock project to stay in compliance with all state/county show rules and guidelines to ensure the eligibility of livestock projects.





DO:

Activity: Speed Judging

Preparation: If you don't have onsite livestock to evaluate, use the Speed Livestock Judging activity for an exercise in comparing steers to each other or heifers to each other with desirable or undesirable trait differences. Additional classes can be created in a Power Point format to expand 4-H members knowledge in livestock judging.

This activity can be found in Power Point format at:

<http://texasyouthlivestock.com/goat/>

REFLECT:

- Although these selection points are important, different people have different opinions when it comes to evaluating livestock animals. Keep this in mind on show day when the judge makes his selections.
- How important is starting out with an animal that has good structure?
- Who is available to offer guidance during the selection process?

APPLY:

- Research the Livestock Show(s) you plan on attending to find out who will be judging.
- Research that particular judge to figure out what traits he or she usually select for.
- Talk to a County Extension Agent or Agricultural Science Teacher about who is available as a Livestock Mentor related to the sheep and goat show industry.

REFERENCES:

- <http://texasyouthlivestock.com/goat/> (Speed Judging Activity)



ACTIVITY: SPEED JUDGING

Speed judging is a fun and interactive spin on livestock judging. The contest provides embedded education and immediate results.

Objectives

- Teach Livestock Evaluation
- Promote Quick Decision Making
- Increase Livestock Production Knowledge
- Create a Fun and Competitive Environment
- Competition with Instant Results

Rules:

- Two livestock animals (or pictures of two livestock animals) are presented to be evaluated at a time
- Moderator asks question related to two animals
- Animal #1 is positioned to contestants left and animal #2 on the right respectively
- Participants have two numbered or colored chips (blue representing #1; red representing #2)
- Participants have 20 seconds to answer after the question is presented
- Moderator describes to audience how the question relates to livestock production
- Encourage parents/adults and eliminated contestants to watch other contestants from the stands
- Participants place the chip or number that corresponds to the wrong answer in the bucket and hang on to the chip they believe answers the question correctly
- Moderator will report the correct answer. Participants holding the correct chip are still in the game. Participants holding the wrong chip are eliminated from the game.

Equipment Required:

- Poker Chips
- Two Buckets
- Microphone and Sound System (Depending on Audience Size)
- Rope or Chalk to Create Barriers for Contestants
- Keeps contests from getting too close to livestock
- Livestock

Between 1 and 2, which goat is wider constructed?



#1



#2

Between 1 and 2, which goat is wider constructed?



#1



#2



Between 1 and 2, which goat is more muscular from behind?



#1



#2

Between 1 and 2, which goat is more muscular from behind?



#1



#2

Between 1 and 2, which is more level in his topline?



#1



#2

Between 1 and 2, which is more level in his topline?



#1



#2

Between 1 and 2, which goat has more muscle behind his shoulder?



#1



#2

Between 1 and 2, which goat has more muscle behind his shoulder?



#1



#2



Nutrition and Feeding

**TIME:**

30 minutes

MATERIALS NEEDED:

- Feed tag handout

OBJECTIVES:

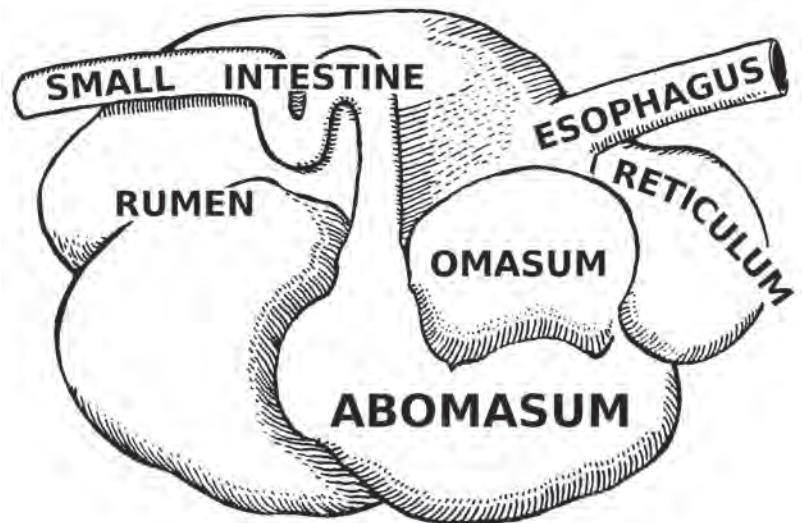
The 4-H member will be able to:

- Explain the digestive tract of ruminants.
- Describe feed components of common diets.
- Learn about special dietary requirements for sheep and goats.

EXPLORE THE CONTENT:

Sheep and goats are ruminant animals, meaning they have a four-compartment stomach. The initial compartment of the stomach is the reticulum, which is the organ that catches and traps consumed foreign objects and prevents damage to the rest of the digestive tract. In addition, the reticulum plays a vital role in the rumination process, where feed is regurgitated and re-chewed. Next, the largest of the four compartments, is the rumen. Here low-quality forage is fermented by microbes and made into higher quality products better utilized by the animal. Because of this large population of microbes, ruminant animals, like cattle, sheep and goats can survive on low quality pasture. The omasum is the third compartment, and its main function is to filter and absorb nutrients leaving the rumen. Last is the abomasum, also known as the true stomach, which acts like the stomach of other monogastric animals. It is in the abomasum where the digestion process is started and then continues into the small and large intestines. Three segments make up the small intestine: the duodenum, jejunum and the ileum. Lastly is the large intestine, the main job of the large intestine is further fermentation of products and absorption of nutrients. Any products making it past the large intestine are excreted.

There are five basic nutrients required by all livestock. They are:



water, protein, carbohydrates and fats (or energy), minerals and vitamins.

Water is the most essential and the most limiting nutrient of every animal. Lean tissue consists of more than 70% water. Without water, the body cannot maintain itself. If an animal loses more than 20% of its body water, it will die. Clean, fresh water





is required on a daily basis to keep the body functioning at optimum levels. Most animals require 10% of their body weight in water per day, depending on a number of factors: what they are eating, temperature, climate, age, lactation etc. Average consumption per head per day for varying sheep ages is depicted below:

Stock Type	Consumption Per head per day (L)
Sheep	
Weaners	2-4
Adult dry sheep	
- grassland	2-6
- saltbush	4-12
Ewes with lambs	4-10

<http://www.livestock-emergency.net/userfiles/file/water-supply/Marwick-2007.pdf>

Understanding the type of digestive system is especially important when it comes to feeding livestock. Ruminants are at an advantage because they are able to ferment forages at the beginning of the tract, but this can cause problems when fed high starch diets. Sheep and goats rely on forages, like hay, to get essential nutrients and keep their stomach healthy. Forages keep the pH of the rumen normal. If fed too much grain with not enough forage, they will get acidotic and can bloat - eventually leading to death. Ruminants need at least 2% of their body weight in forages per day. Common forages are listed below:

Grasses	Legumes
Bermudagrass	Alfalfa
Bromegrass	Birdsfoot trefoil
Kentucky bluegrass	Cow peas
Native grasses	Lespedeza
Orchardgrass	Peanut
Reed canarygrass	Red clover
Ryegrass	Soybean
Tall fescue	White clover/Ladino
Timothy	Vetch

<http://www.sheep101.info/201/feedstuffs.html>

Forages are a great feed source for small ruminants, and in most cases, can sustain them just fine. For animals with increased performance requirements, forage alone may not be able to support them. Adding supplemental concentrate feeds to a diet can be extremely beneficial to increase conception rates, lactation, growth, muscling or some other desirable characteristic.etc. Feeding concentrates with high energy and protein levels will allow the animal to meet maintenance requirements and have more additional reserves to meet the performance requirements.

The primary constituent of the animal body is protein. Dietary protein maintains 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 lambs and goats vary according to their size, age and maturity. Young, fast growing animals need rations that contain 16 to 18 percent protein to allow them to grow and develop their muscle potential. Lambs and goats can be fed lower protein diets during the fattening stage and during the hotter summer months, because feeding high protein diets can cause heat stress. Older animals can be fattened on rations containing 11 to 12 percent protein.

The most common limiting nutrients in lamb rations are energy-producing carbohydrates and fats. Inadequate energy intake will reduce growth and cause weight loss. An adequate supply of energy is necessary for efficient nutrient



utilization. Grain and protein supplements are high in energy. Hay contains less carbohydrates and fats. Mineral supplementation is a common practice in all livestock, and many commercial feeds are formulated to meet vitamin and mineral requirements. When supplementing, it is very important to make sure you have the correct amount. Sheep are especially sensitive to copper and can only intake a very small amount without getting sick or dying.

Important minerals in lamb and goat rations are salt (sodium and chlorine), calcium and phosphorus. It is recommended that loose salt and loose trace minerals for ruminants are fed free-choice at all times. Calcium and phosphorus are necessary for proper growth and development. They should be fed in a ratio of approximately 2.5-parts calcium to 1-part phosphorus. Feed rations that contain high levels of phosphorus in relation to calcium may cause urinary calculi, the formation of stones that block the passage of urine.

Macrominerals include : sodium (Na), chloride (Cl), calcium (Ca), phosphorus (P), magnesium (Mg), Potassium (K), and Sulfur (S).

Microminerals include: iodine (I), copper (Cu), iron (Fe), manganese (Mn), zinc (Zn), molybdenum (Mo), cobalt (Co), selenium (Se), and fluoride (Fl),

Recommended Feedstuff Percentages

ENERGY FEEDS

Feedstuff	Percent TDN
Whole cottonseed	91
Wheat middlings	90
Corn grain	89
Wheat grain	89
Milo (grain sorghum)	89
Barley grain	84
Corn gluten feed	83
Ear corn	82
Rye grain	81
Soybean hulls	77
Molasses	75
Beet pulp pellets	74
Oat grain	74

PROTEIN FEEDS

Feedstuff	Percent CP
Urea	281*
Fish meal	62
Soybean meal	48
Whole soybeans	42
Cottonseed meal	41
Linseed meal	34
Commercial protein supplement	36-40
Corn gluten feed	26
Poultry litter	26
Distiller's grains	25
Brewer's grains	24
Whole cottonseed	21
Alfalfa pellets	17
Lick tubs	16-24

<http://www.sheep101.info/201/feedstuffs.html>



Mineral content of commonly used forages and concentrate feeds.

Feedstuff	Calcium %	Phosphorus %	Potassium %	Sulfur %	Copper, ppm	Zinc, ppm
Bahiagrass Pasture	0.46	0.22	1.45	0.21	8.0	20.0
Bermudagrass Pasture	0.39	0.26	1.3	0.28	9.0	20.0
Bermudagrass Hay	0.43	0.20	1.61	0.21	9.0	20.0
Fescue Pasture	0.51	0.27	2.3	0.19	5.8	18.7
Fescue Hay	0.51	0.37	2.3	0.18	6.0	22.0
Corn	0.03	0.31	0.33	0.14	4.8	16.0
Corn Silage	0.25	0.22	1.14	0.12	4.2	17.7
Corn Gluten Feed	0.07	0.95	1.40	0.47	7.0	73.3
Cottonseed Meal, 41%	0.20	1.16	1.65	0.42	16.5	74.0
Whole Cottonseed	0.16	0.62	1.22	0.26	7.9	37.7
Soyhulls	0.53	0.18	1.29	0.11	17.8	48.0
Soybean Meal, 44%	0.40	0.71	2.22	0.46	22.4	57.0
Molasses	1.00	0.10	4.01	0.47	65.7	21.0
Citrus Pulp	1.88	0.13	0.77	0.08	6.2	15.0

NRC, 1996. Adapted from NRC. Nutrient Requirements of Beef Cattle, Sixth Edition.

<http://extension.uga.edu/publications/detail.cfm?number=B895>

DO:

Activity: Reading a Feed Tag

Preparation: The purpose of this activity is to teach students how to read a feed tag. Using the feed bag tag example found in this lesson, print each young person a copy and have them complete the questions on the bottom of the page

Rules:

- Ask participants to answer the questions you prepared for the feed tag.
- Discuss the importance of each question and explain the correct answers.

REFLECT:

- Why is it important to be able to read feed tags?
- Where is a feed tag located on a bag of feed?
- Will your sheep/goats need additional supplements not included the feed?

APPLY:

- When will you read a feed tag? Before you feed an animal, while the animal is eating, after the animal is done eating, or never?
- Should you feed the animal the same feed for its entire life?

REFERENCES:

- <http://extension.uga.edu/publications/detail.cfm?number=B895>
- <http://www.sheep101.info/201/feedstuffs.html>
- <http://www.sheep101.info/201/feedstuffs.html>
- <http://www.livestock-emergency.net/userfiles/file/water-supply/Marwick-2007.pdf>
- [ep101.info/201/feedstuffs.html](http://www.sheep101.info/201/feedstuffs.html)

ACTIVITY: Reading a Feed Bag Label

Lamb & Goat Grower

Medicated for goats, lambs and calves being fitted for show.

Administer Fast Forward™ Fast Fat as a conditioning supplement during any phase of the feeding period to achieve desired body conditioning scores.

Guaranteed Analysis

Crude Protein, not less than	10.00%
Crude Fat, not less than	5.00%
Crude Fiber, not more than	3.50%
Calcium (Ca), not less than	0.70%
Calcium (Ca), not more than	1.00%
Phosphorus (P), not less than	0.50%
Potassium (K), not less than	0.50%
Selenium (Se), not less than	0.30 ppm
Vitamin A, not less than 2,000 International Units per pound	

Ingredients

Ground Corn, Barley, Dried Whey, Ground Milo, Dehulled Soybean Meal, Calcium Salts of Fatty Acids, Cane Molasses, Monocalcium Phosphate, Dicalcium Phosphate, Brewer's Dried Yeast, Calcium Carbonate, Sodium Sesquicarbonate, Sodium Propionate (a preservative), Choline Chloride, Natural and Artificial Flavors, Manganous Oxide, Zinc Oxide, Potassium Sulfate, Magnesium Oxide, Defluorinated Phosphate, Mineral Oil, Ferrous Sulfate, Vitamin E Supplement, Vitamin A Acetate, Potassium Iodide, Niacin Supplement, Biotin, Calcium Pantothenate, Cobalt Carbonate, Riboflavin Supplement, Menadione Dimethylpyrimidinol Bisulfite (source of Vitamin K Activity), Cholecalciferol (source of Vitamin D3) Sodium Selenite, Vitamin B12 Supplement, Folic Acid.

Feeding Instructions

This supplement is for calves weighing at least 600 lb, goats and lambs. Top-dress rations for thin or stressed animals with Fast Fat at a rate of 8 to 16 oz per 100 lb of body weight per head per day. Fast Fat can be fed during any phase of the feeding period to achieve desired body conditioning scores.

100-lb goat	8 oz
125-lb lamb	10 oz
1,200-lb calf	96 oz (6 lb)

NOTE: Base ration volumes figured for goat and lamb at 3% of body weight per head per day.

**Manufactured by:
ADM Alliance Nutrition, Inc.**

Complete the following questions for the feed bag label.

1. What is the main feed ingredient in this feed?
2. What is the crude protein level?
3. What is the minimum crude fat level of this diet?
4. Is ground milo included in the ingredients of this diet?
5. How much ration should be fed to a 125 lb lamb/goat?
6. When should this feed be fed to sheep/goats?
7. What are the minimum and maximum Calcium levels of this diet?

ACTIVITY: Reading a Feed Bag Label - ANSWER KEY

Lamb & Goat Grower

Medicated for goats, lambs and calves being fitted for show.

Administer Fast Forward™ Fast Fat as a conditioning supplement during any phase of the feeding period to achieve desired body conditioning scores.

Guaranteed Analysis

Crude Protein, not less than	10.00%
Crude Fat, not less than	5.00%
Crude Fiber, not more than	3.50%
Calcium (Ca), not less than	0.70%
Calcium (Ca), not more than	1.00%
Phosphorus (P), not less than	0.50%
Potassium (K), not less than	0.50%
Selenium (Se), not less than	0.30 ppm
Vitamin A, not less than 2,000 International Units per pound	

Ingredients

Ground Corn, Barley, Dried Whey, Ground Milo, Dehulled Soybean Meal, Calcium Salts of Fatty Acids, Cane Molasses, Monocalcium Phosphate, Dicalcium Phosphate, Brewer's Dried Yeast, Calcium Carbonate, Sodium Sesquicarbonate, Sodium Propionate (a preservative), Choline Chloride, Natural and Artificial Flavors, Manganous Oxide, Zinc Oxide, Potassium Sulfate, Magnesium Oxide, Defluorinated Phosphate, Mineral Oil, Ferrous Sulfate, Vitamin E Supplement, Vitamin A Acetate, Potassium Iodide, Niacin Supplement, Biotin, Calcium Pantothenate, Cobalt Carbonate, Riboflavin Supplement, Menadione Dimethylpyrimidinol Bisulfite (source of Vitamin K Activity), Cholecalciferol (source of Vitamin D3) Sodium Selenite, Vitamin B12 Supplement, Folic Acid.

Feeding Instructions

This supplement is for calves weighing at least 600 lb, goats and lambs. Top-dress rations for thin or stressed animals with Fast Fat at a rate of 8 to 16 oz per 100 lb of body weight per head per day. Fast Fat can be fed during any phase of the feeding period to achieve desired body conditioning scores.

100-lb goat	8 oz
125-lb lamb	10 oz
1,200-lb calf	96 oz (6 lb)

NOTE: Base ration volumes figured for goat and lamb at 3% of body weight per head per day.

**Manufactured by:
ADM Alliance Nutrition, Inc.**

Complete the following questions for the feed bag label.

1. What is the main feed ingredient in this feed?
GROUND CORN
2. What is the crude protein level? **10%**
3. What is the minimum crude fat level of this diet?
5%
4. Is ground milo included in the ingredients of this diet? **YES**
5. How much ration should be fed to a 125 lb lamb/goat? **10 OZ.**
6. When should this feed be fed to sheep/goats?
DURING ANY PHASE OF THE FEEDING PERIOD TO ACHIEVE DESIRED BODY CONDITIONING SCORES
7. What are the minimum and maximum Calcium levels of this diet? **MIN-.70% MAX-1%**

Health and Disease Management

**TIME:**

30 minutes

MATERIALS NEEDED:

- 2 bananas for each participant
- Food coloring
- Jar of water
- Needles and syringes or plastic pipettes
- A bottle of medicine or a medicine label

OBJECTIVES:

The 4-H member will:

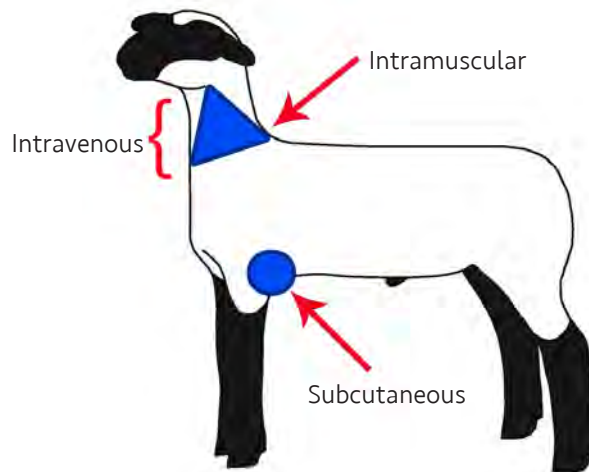
- Learn the importance of livestock health and well-being.
- Learn the importance of proper management of livestock to sustain growth and production.
- Recognize and be able to treat infections and diseases.
- Learn preventive measures regarding diseases and internal/external parasites.
- Build a working relationship with a veterinarian.

EXPLORE THE CONTENT:

Health and disease management plays a vital role in the well-being of your lamb and goat project and should begin when animals are born. Commonly, those animals who struggle with disease and sickness have difficulty reaching full genetic potential. This is why it is important to have a preventive health program in place. A preventive health program should include vaccinations and treatments for multiple infectious and non-infectious diseases and metabolic disorders that are commonly associated with nutritional deficiencies. Understanding your animal's normal behavior and noticing any behavioral change, can help with detection of problems that could ultimately be detrimental to the animal's health. Early detection of small problems can also lead to a more successful treatment by a veterinarian.

Vaccinations

Always consult with the animal's breeder about vaccinations or treatments the animal received under his/her care. To reduce the risk of disease or illness, when animal records are not available, treat the animal as if vaccinations have not been administered. Below you will find basic information related to vaccinations and injection sites.

Injection Sites**Enterotoxemia Vaccination:**

- Vaccine: Clostridium Perfringens Type D (Intramuscular Shot)
- Administered at one to three months of age.
- Booster should be administered two to four weeks after first vaccine.
- Vaccinate every other month after booster administration if recommended by a veterinarian.

**Sore Mouth:**

- Vaccine: Ovine Echtyma (Live virus)
- Administered with appropriate applicator in the flank or the ear.
- Administered at three to six weeks of age.

De-worming:

- Various de-wormers: Use the most effective depending on area in which the animals reside, as some parasites are more common in certain areas of Texas than others.
- Administered orally once a month or as directed by a veterinarian.

Tetanus Toxoid:

- Vaccine: Clostridium Perfringens Type C & D (CDT) (Intramuscular Injection)
- All lambs and goats should be vaccinated for Tetanus every six months if recommended by a veterinarian.
- Tetanus Antitoxin:
- Administered after castration, docking, and/or injury.

Diseases/Illnesses**Enterotoxiemia**

Enterotoxiemia is a disease that is commonly known as overeating disease in sheep and goats. When an animal's feed is abruptly changed or when the animal intakes an excessive amount of grain, they are more susceptible to Enterotoxiemia. Feed changes of this degree cause the clostridial organism found in the intestine of sheep and goats to grow immensely, which produces a lethal toxin causing death within a few hours. This disease has little to no symptoms, which is why it has such a high mortality rate. Vaccinating for this disease is crucial in terms of management.

Coccidiosis

Coccidiosis can also be a very serious condition, having a high mortality rate if not treated promptly. Clinical signs of Coccidiosis include, but are not limited to: watery/bloody diarrhea, weight loss, lethargy, and dehydration. Coccidiosis is highly contagious, thus animals infected should be quarantined until treatment is complete and the risk of infecting other animals is decreased. Consult a veterinarian on proper treatment depending on what strain of Coccidiosis the animal has contracted as treatment procedures vary based on which strain was determined to be the cause.

Urinary Calculi

Urinary Calculi is caused by an imbalance of the calcium to phosphorous ratio. Male goats are particularly affected by the metabolic disease that results in calculi stone formation in the urinary tract preventing/inhibiting the ability to urinate. If not treated promptly, this disease can be lethal. Urinary Calculi is primarily an issue when feeding grain based diets that are higher in phosphorus and lower in calcium. Rations that offer a 2:1 calcium to phosphorus ratio are recommended to prevent Urinary Calculi from being a problem. Clinical signs include restlessness, failed attempts to urinate, and kicking at the abdomen/bladder area. Treatment usually consists of removing any stones surgically or by administered fluids that contain ammonium chloride to help break up the stones so they can pass on their own. Also, consider adding ammonium chloride to the feed ration. One preventive method is to add ten to fifteen pounds of ammonium chloride to each ton of feed.

Dematophytosis

More commonly known as ringworm, Dematophytosis affects many livestock species and is highly contagious not only to other animals, but also to humans. Ringworm is a fungus that is commonly contracted by contact with other infected animals and or equipment. It is important to recognize the development of this fungus before it spreads to uncontrollable measures. Some preventive measures include:

- washing animals with antifungal shampoo after traveling to a livestock show,
- disinfecting all equipment on a regular basis, particularly between contact with different animals,
- isolating animals that are infected to prevent the risk of the fungus spreading.

Consult a veterinarian regarding the proper treatment based on the degree of infection.



**Contagious Ecthyma**

Most commonly affecting goats, Contagious Ecthyma or sore mouth is a viral disease that causes the formation of scabs on soft tissue, normally around the face, but if left untreated can easily spread to the entire body. This virus can also affect humans and should be treated with caution. Although common, this disease is easily treatable. Treatments include rubbing off the scabs in the infected area and using iodine to dry out the lesions. Always consider vaccinating animals with Ovine Ecthyma, a live virus to help prevent the disease.

Tetanus

Tetanus commonly affects lambs and goats, particularly after castration and or tail docking. Unlike other diseases, Tetanus is an extremely serious condition that animals rarely recover from. Tetanus is caused by a bacterial infection from an open wound, where bacteria produces a powerful neurotoxin that greatly affects the nervous system. Treatment is available, but has a low success rate. Vaccination like the one listed above, is one of the only ways to keep Tetanus under control.

Polioencephalomalacia

Polioencephalomalacia is a type of brain degeneration caused by a thiamine/vitamin B1 deficiency. The most common symptom of this disease is blindness, but sheep can show other signs such as seizures, paddling, drawing head back stiffly so it is pressed against the spine, and lethargy. Sudden death is commonly associated with this disease, but sheep can show signs one to six days before death. Affected animals should be treated immediately with injectable or oral thymine or vitamin B1 supplements.

Keratoconjunctivitis

Commonly known as pink eye, Keratoconjunctivitis, is a contagious disease that is caused by many circumstances such as constant exposure to sunlight and dusty environments. Signs include excessive watering of the eye and clouding of the pupil. This disease is easily treatable with over the counter medications found at a local feed store such as, clorotetracyclines. Consult a veterinarian if the condition worsens.

Copper Toxicity

Copper Toxicity is often caused by the improper feeding of mixed rations containing high levels of copper. According to Dr. Shawn Ramsey, this disease is normally triggered by stress and an excessive amount of copper stored in the liver. Clinical signs include: sheep suddenly going off feed, weakness, and blood in urine. Treatment consists of identifying the source and removing it immediately. Drenching animals with electrolytes to strengthen the animal's entire system and flushing out the kidneys are also methods of treatment. Avoid putting animals that show signs of copper toxicity under stressful situations, such as: shearing, traveling to shows, or exercising.

Internal & External Parasites

Sheep and goats are continually threatened by internal and external parasites. De-wormers are used to help diffuse the problem and should be administered once a month, or as recommended by a veterinarian. Goats commonly struggle with external parasites such as lice and mites, which cause irritation of the skin and hair loss. In this case, it is recommended that pour-on or spray-on parasiticides or insecticides be used to control these parasites. Always consult a veterinarian on what type of de-wormer or medication is best for the particular situation and area.

Antibiotic Usage

The Veterinary Feed Directive will become effective January 2, 2017. This regulation, set forth by the U.S. Food and Drug Administration, will mean that producers and exhibitors will no longer be able to purchase medically important antimicrobials used in or on feeds without a veterinarian-written prescription.





DO:

Activity: Banana Injection

The United States food supply is the safest, most wholesome and abundant in the world. In an effort to continuously meet the demands of consumers, producers must be diligent in assuring quality standards in food products. One important factor in producing safe meat is performing injections properly. This activity allows exhibitors to practice giving injections.

Preparation:

Mix the food coloring into the water. Give each participant two bananas, a syringe and a needle or a plastic pipette. Discuss the proper way to draw medication into the syringe. Demonstrate for the participants, using the colored water.

Rules:

- Participants draw colored water into their syringe or plastic pipette.
- Instruct the participants to give a subcutaneous injection into one banana, then give an intramuscular injection into the other banana.
- Cut open each banana and observe how the colored water, a substitute for medicine in this exercise, was dispersed.

REFLECT:

- Determine whether or not the injection was given correctly by examining the banana.
- Analyze a medicine bottle label and indicate where it talks about injection type.
- Discuss the importance of reading medicine labels to determine the proper injection type.
- Discuss the importance of withdrawal times of medications.

APPLY:

- Explain the purpose of vaccinations your market steer or breeding heifer project has already received and identify what vaccinations you will need administer.
- Discuss why you should always consult with your veterinarian with regard to treatment of livestock projects.
- Share why and how would you maintain records on health, treatments and vaccinations.

REFERENCES:

- <http://animalscience.tamu.edu/livestock-species/sheep-goats/publications/>



ACTIVITY: Disease ID Matching Exercise

Match the disease in column A with its correct description found in column B

- 1 Enterotoxiema
- 2 Coccidiosis
- 3 Urinary Calculi
- 4 Dematophytosis
- 5 Contagious Ecthyma
- 6 Tetanus
- 7 Polioencephalomalacia
- 8 Keratoconjunctivitis
- 9 Copper Toxicity
- 10 Internal and External Parasites

	A	Type of brain degeneration that is caused by a thymine/vitamin B deficiency.
	B	Viral disease that causes the formation of scabs on soft tissue, normally around the face.
	C	Commonly known as overeating disease.
	D	Caused by an imbalance of the calcium to phosphorous ratio.
	E	Dewormers are used to help diffuse the problem.
	F	Commonly affects lambs and goats, particularly after castration and/or tail docking.
	G	Clinical signs include: watery/bloody diarrhea, weight loss, lethargy, and dehydration.
	H	Commonly known as Ringworm.
	I	Caused by the improper feeding of mixed rations containing high levels of copper.
	J	Clinical signs include: excessive watering of the eye and clouding of the pupil.

ACTIVITY: Disease ID Matching Exercise

Match the disease in column A with its correct description found in column B

- 1 Enterotoxiema
- 2 Coccidiosis
- 3 Urinary Calculi
- 4 Dematophytosis
- 5 Contagious Ecthyma
- 6 Tetanus
- 7 Polioencephalomalacia
- 8 Keratoconjunctivitis
- 9 Copper Toxicity
- 10 Internal and External Parasites

7	A	Type of brain degeneration that is caused by a thymine/vitamin B deficiency.
5	B	Viral disease that causes the formation of scabs on soft tissue, normally around the face.
1	C	Commonly known as overeating disease.
3	D	Caused by an imbalance of the calcium to phosphorous ratio.
10	E	Dewormers are used to help diffuse the problem.
6	F	Commonly affects lambs and goats, particularly after castration and/or tail docking.
2	G	Clinical signs include: watery/bloody diarrhea, weight loss, lethargy, and dehydration.
4	H	Commonly known as Ringworm.
9	I	Caused by the improper feeding of mixed rations containing high levels of copper.
8	J	Clinical signs include: excessive watering of the eye and clouding of the pupil.

Facilities and Equipment



EXPLORE THE CONTENT:

Before purchasing any livestock project it is important to be sure you have the proper facilities to house that animal and the necessary equipment to provide daily maintenance and care. With that being said, facilities do not have to be elaborate or expensive. Sheep and goats require a barn or shed that the animal can go under to get out of poor weather conditions, and a pen where they can get outside light exposure. While proper fencing, feed and water supplies are critical, other equipment can be optional. Remember to discuss any questions or concerns regarding the use of the county's or agriculture department's equipment or facilities with your supervising County Extension Agent and/or Agricultural Science Teacher.

TIME:

30 minutes

MATERIALS NEEDED:

- Two show boxes, brushes, chains, halters, water hose, shampoo, etc. (Items you would typically find in a show box)
- Drench gun, blowers, adhesive, paint, powder, etc. (Items you might find in a show box that could be prohibited at certain shows)
- Livestock show rules from various major livestock shows in Texas to compare.

OBJECTIVES:

The 4-H member will:

- Learn the basic necessities of raising and exhibiting a lamb or goat.
- Understand supplies needed and considerations when traveling to shows.
- Investigate the proper facilities needed to house a lamb or goat project.

Barns

Most sheep and goat barns and sheds, should offer an adequate amount of space for each animal and require that at least twenty square feet per animal be allotted. If possible, feeding facilities or "stalls" should be on higher ground for draining purposes. For barn temperature control, the barn/shed should open to the east or south to prevent any north winds from entering. All-weather roads are recommended for adequate barn accessibility during poor weather conditions. Having a feed room is not required, but it is recommended. Animals should be prevented access to this area and it should be big enough to hold feed, show boxes, and other equipment for storage.

Ventilation is also extremely important. Proper ventilation reduces the risk of respiratory diseases that affect lambs and goats. Barns should not only be well ventilated, but also cleaned out regularly to prevent high levels of ammonia and flies. Keeping pens clear of any vegetation is important when trying to control internal parasites. Ventilation also helps lambs and goats stay cool during the hot summer months. Alterations to facilities may have to been done in the fall or winter months for proper barn temperature. An example of a new inventive alteration is a small insulated shelter for the winter. During the winter, this type of housing facility is used for extreme weather conditions and to keep animals warm and safe. The shelter may be any size and is usually dependent on how many animals will be present during the feeding period. Often these insulated shelters are built out of wood or other light materials for ease of movement. The shelters should be fireproof, if possible, and have heat lamps inside as a source of heat.

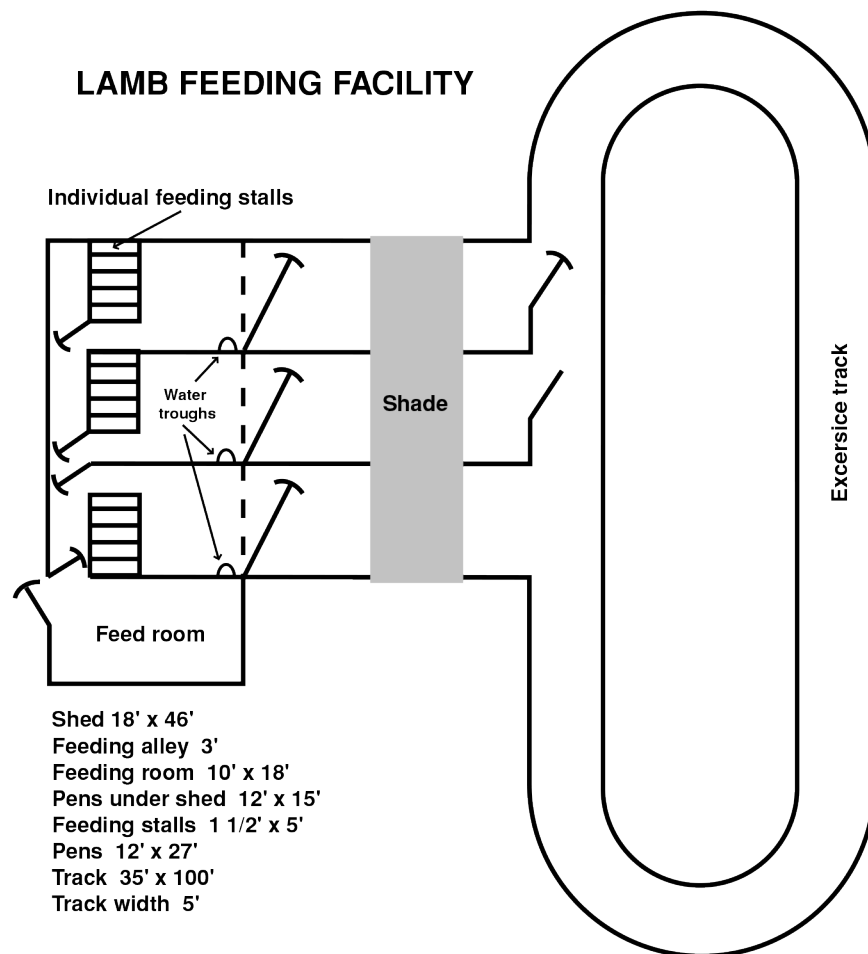




Ground floors can be covered with a number of materials as simple as dirt or sand, and as long as the animal is comfortable and dry. Try to avoid slick surfaces. Pinewood and cedar shavings are also a good choice, but be vigilant, in identifying and troubleshooting for mite infestations that are associated with wood shavings. Additionally, be cautious of wet cedar fiber and/or shavings as these can cause staining of white wool or hair.

Exercise tracks are recommended for market lambs and goats and are fairly easy to install. Tracks can be any size or shape and usually depend on the space available. Normally, it is best to connect a track to your barn for ease of movement of the animals (as shown below.) To prevent animals from trying to jump out, it is suggested for these exercise facilities be at least forty-two inches tall. These tracks should be between 40' and 60' long to help maintain control of dogs and other livestock and give more opportunity for quick acceleration after each turn. There are also other types of exercise equipment that can be used with an exercise track, such as a treadmill or a walker. If you do not have access to any exercise equipment, walking your lamb or goat project with a halter or chain does not give the animal enough exercise, but it is better than no exercise at all.

Suggested Facility Layout and Dimensions:



Fencing

Fencing is another important subject to investigate. Fencing for lambs and goats should be at least forty-two inches tall and be predator proof. If needed, place six inch mesh around the fencing to prevent predators and keep livestock projects from getting their head stuck in the fence. For the safety of animals, barbed wire fences are not recommended. Barbed wire fences can cause not only rips in the animals blankets but also unwanted injury to the animal's hide.





Electricity

Barns should be wired to provide power to basic light fixtures in the feeding room as well as in individual pens. It may also be essential to have access to electrical outlets for fans and/or heat lamps. Radios have also been used in barns to allow animals to become accustomed to strange noises and loud environments associated with livestock shows.

Equipment

Feeders

There are multiple ways of feeding your project; based on time, access, and room. Feeders should be at least eight inches off the ground and provide ample room for each animal with access to it. If you are hand feeding these animals, by using moveable troughs, it is important to place troughs where animals can reach usually at shoulder height. During the show season, individual stalls are often used to provide a specific amount of feed to each animal. These feeders are used when there are multiple lambs or goats needing different diets. This allows you to watch and record the feed consumption of a particular animal and is excellent during the final stages before a livestock show. All feeders should be cleaned out regularly and kept under barns, if possible. This will ultimately keep the feed fresher and more palatable. Another way to increase feed consumption, especially during the warmer months, is to provide the feed during the cool times of the day. Feed digestion causes heat production, so feeding during early morning or evening is more effective during the summer.

Water Buckets

The most important nutrient an animal must have is fresh, clean water. Each pen should have at least one medium-sized water bucket that should be cleaned and freshened on a daily basis. Preferably, water containers should be placed under the barn or under shade to keep the water cool. Additionally, lighter bucket colors seem to encourage more water uptake.

Scales

It is important to record and evaluate how much weight your animal is gaining or losing. To do this, it is necessary to have access to a set of livestock scales. Keeping a record of your animal's weight on a regular basis will allow you to set a target weight and adjust the diet of that animal accordingly. Before purchasing a scale of your own, speak with your County Extension Agent or Agricultural Science Teacher to see if the chapter/club has a set of scales available.

Note: All major stock shows allow different products. Remember to check show rules and guidelines prior to arriving.

Another set of scales that is useful to have on hand in your barn is a small table scale to weigh your animal's feed ration. Keeping track of exactly how many pounds of feed your lamb or goat is eating each day is useful in terms of weight management and maintaining proper nutrition practices.

What's in the Show Box? Below is a list of recommended supplies to have on hand.

Project Supplies

Show Box
Halters
Chains
Sheep and Goat Blankets
Muzzles
Fans
Safety Pins
Zip ties
Wire
Extension Cords

Grooming Supplies

*Blocking Table or Trim Stand
*Clippers
*Clipper Blades
*Clipper Oil
*Blow Dryer
Water Hose
Soap
Brushes (hard & soft)
Waterless Shampoo
Towels
Wool Cord
Hoof Trimmers

Feeding & Bedding Supplies

Feed
Hay
Feed trough
Water Bucket
*Drench Gun
Electrolytes
Probiotic Paste
Vit-B Complex
Thiamine
*Shavings

**Always check show rules and regulation regarding these supplies, as some shows do not allow them.*





DO:

What's in the Show Box?

Activity Preparation:

Gather 2 sets various supplies for each team that might be found in a show box and place them all out on a table or the ground for participants to see. Print off different sets of livestock show rules regarding what type of grooming supplies are allowed or prohibited.

Rules:

- Divide the participants into two groups.
- Give each group the same set of livestock show rules.
- Allow the team 3 minutes to review and understand the rules of the show.
- At the end of the 3 minutes, have the teams line up on the opposite end of the room from the supplies laid out.
- Set a timer for 5 to 15 minutes depending on team size and how many supplies are available.
- Teams will race 1 participant at a time down to the supplies on the table and select one item that belongs in the show box. Run back to their team and the next team member will go.
- At the end of the allotted time, the team with the most amount of correct items in their show box wins.
- Repeat the activity with rules from a livestock show that are different from the first set of rules used. This will allow participants to recognize that different shows have difference expectations.

REFLECT:

- Are there any supplies in either show box that do not belong according to the livestock show rules?
- Is there potential for exhibitors to be disqualified from a show for using a product at one show versus using it at another show?
- How important is it to read the livestock show rules before you pack to go to the show?
- If the show box is packed from the previous show and items are present that are not allowed at the next show, is it risky to take them along anyway?

APPLY:

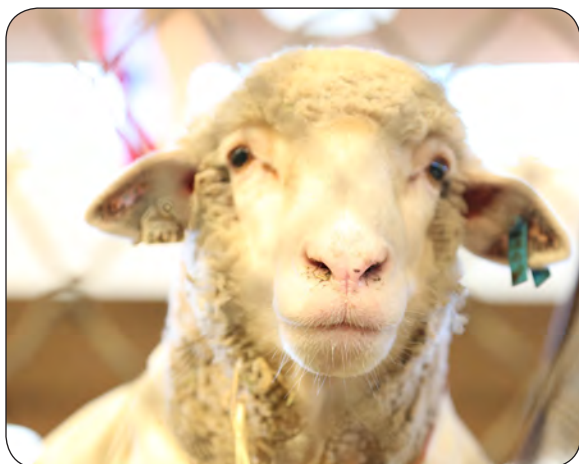
- How will you use this information in preparing for a livestock show in the future?
- If there are any supplies or grooming products that you are unsure about, who can you ask to find out if you need to leave the supplies out?
- How might the information learned be helpful outside of the show circuit?

REFERENCES:

- <http://animalscience.tamu.edu/wp-content/uploads/sites/14/2012/04/asweb115-lambshowbox.pdf>



Exercise

**TIME:**

30 - 45 Minutes

MATERIALS NEEDED:

- Exercise Power Point

OBJECTIVES:

The 4-H member will:

- Learn the importance of exercising their lamb or goat project.
- Understand the methods of exercising and what each can accomplish.
- Understand the safety procedures that should be taken when exercising their project
- Investigate the relationship between exercise and nutritional demands.

EXPLORE THE CONTENT:

Exercising your project is one of the most important steps in ensuring your project's success. Show animals, much like human athletes, must have balanced diets and scheduled training in order to perform at a high level. There are numerous ways to exercise your lamb or goat depending on the condition of your animal and what specific goal of the project is expected. As a general rule, most lambs and goats should be exercised on a regular basis as discussed below.

When, Why, & How Much:

Your plan for exhibiting your animal, determines when and how much you should exercise your lamb or goat. Additionally, exhibitors should consider the maturity and the body condition of the animal in regards to exercise. Animals that carry more fat condition should be exercised at a higher level for a longer period of time than thinner animals. Although all of these factors should be considered prior to starting an exercise program, most goat projects begin exercise programs at about 60 lbs. and sheep at about 100 lbs. Consult with your County Extension Agent or Agricultural Science Teacher to determine fat condition and level of exercise needed. Exhibitors should be careful not to over exert the animals during exercise as this could lead to muscle damage. Additionally, exhibitors need to keep in mind that the amount of nutrition may need to be increased during peak times of exercise to meet the increased demand for energy and recovery of muscles.

Types of Exercise Equipment/Facilities

Any type of exercise program is better than none at all. Keep this in mind when selecting animals and base your plan on exercise programs available. Walking animals is one of the easiest and most inexpensive ways to exercise lambs and goats. Simply walking animals by hand, will not only give them exercise, but this program will also reflect in terms of the animal's leading ability. A more intensive exercise program that is also easy and inexpensive, is taking lambs and goats away from the barn and running them back to their pens. These forms of exercise programs are effective from a health standpoint, but they do not build the added muscle and expression that other, more intensive programs offer. Exhibitors can be creative when exercising their animals.

Walker

Lamb and goat walkers are normally used to help halter break animals, teaching them to hold their head up at a ninety-degree angle with their neck. Walkers, however, can also be used as a form of exercising for your livestock project. This type of exercising





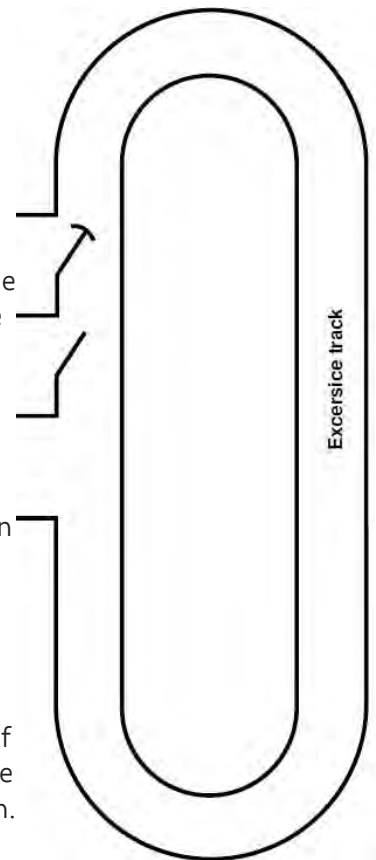
facility is used to tone your animals muscle shape rather than build it, so it should be coupled with another form of exercise program in order to get the best results out of your lamb or goat. Lamb and goat walkers can also be an expensive purchase. Walkers range from \$2,000-\$4,000, however, they can serve as part of your exercise program and be helpful during the halter/chain breaking process.



Track

For the most advanced exhibitors, a running track with a dog may be a good option. Exercise tracks are normally circular or oval in shape and can vary in size. The ideal track should range from 40'X40' to 60'X60'. The track path should be about four feet wide on the straightaways and six feet on the curves. Be cautious not to make the track path too wide, in order to prevent lambs and goats from turning around often, which can be dangerous for both the dog and the lamb or goat. If possible, do not run more than two to three animals at a time, as this reduces the risk of collisions and accidents. Also, keep in mind that the larger the track, the less laps are required. For example, if using a 60'X60' track, three laps three times per week is sufficient. Lastly, the fencing around the track and on the inside of the track path should be flexible and at least four feet tall. It is also suggested that the track path is surrounded with material such as black mesh or rubber to prevent animals from being able to see out. This will reduce the risk of the animal trying to jump out and keep the animals from seeing the dog. Having a trained dog is the key to tracking success, but caution should always be taken when using a dog. The most common type of dog used to track lambs and goats is a Border Collie or a Border Collie mix. You can also chase the animals yourself, and this is recommended for each new set of lambs or goats. Just like the dog is trained, lambs and goats have to be trained to track. However, this method should only be used to train the animals as it simply does not supply the same success rates of other more efficient methods.

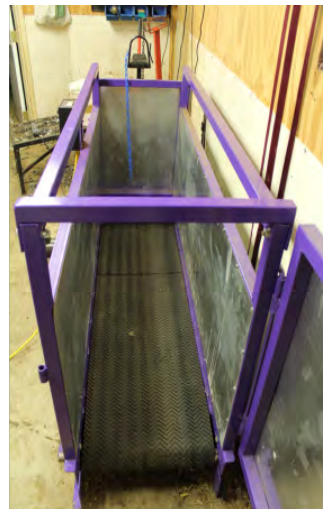
Tracks provide an intense running program that allows the animal build muscle and stamina but also tone the animal's muscle shape. Dogs provide a high level of adrenalin to the lamb or goat causing a flight response. This flight response causes the animal to run faster and harder. This type of exercise program however, does require space and can become expensive. This could be a problem for exhibitors who live in town, or with limited space. In this case, always check with your County Extension Agent or Agricultural Science Teacher for available exercise programs or facilities that are available versus building your own. Also remember that tracks may not be very useful if you reside in an area that receives a lot of rainfall, as wet/muddy tracks should never be used. Keep this in mind when selecting an exercise program that best fits your situation.





Treadmill

Lamb and goat treadmills are a new, inventive form of exercising animals. Treadmills work the hind legs of animals, by walking them backward, to build muscle expression in their center and lower leg. This type of exercising facility is the fastest way to exercise your project, but should be used sparingly. Using a treadmill too often can cause structural problems of the hip and hind leg. An animal may become rounder hipped and often start to become restricted in his/her stride. However, if used properly, animals can gain a competitive edge in muscle expression.



<http://thefinaldrivetreadmill.com/>

Unlike when using a track, treadmills can be used at any time of the year and during any weather condition making them perfect for areas of the state that receive more rainfall. However, treadmills can also be an expensive exercise program with treadmills ranging from \$3,000 to \$5,000. It is suggested that this type of exercise program be coupled with a separate type of exercise program such as a track or a walker to help improve the fitness of the entire animal, as this type only focuses on the hind leg muscle expression.

DO:

Activity: : "Lamb, Lamb, Dog"

Preparation:

Prepare a power-point presentation discussing the differences in sheep and goat exercising programs relative to human athletes, or download the one from: <http://texasyouthlivestock.com/sheep/>

Rules:

- Separate participants into groups with at least four people in each group.
- Have participants sit in a circle facing each other.
- Assign who will be "it" first.
- The person who is "it" will walk around the outside of the circle tapping on each person's head, while saying either lamb or dog.
- When a person is tapped as the dog, they will take off running after the "it" person trying to tag them.
- The "it" person's goal is to get back to the dogs spot before getting tagged.
- If the dog tags the "it," they have to be "it" again.
- After the game is over, show the slideshow presentation below or one of your own to explain how livestock exercise programs relate to humans.

REFLECT:

- What type of exercise program is best suited for the environment you live in?
- Why is exercise important in the success and wellbeing of your livestock project?
- Is there alternate exercise programs that can be used that are not included above?





APPLY:

- Reference a County Extension Agent or Agricultural Science Teacher to determine the exercise facilities that are available.
- How does livestock exercise programs compare to humans?
- What is the purpose of exercising your livestock project?



Showmanship and Fitting



EXPLORE THE CONTENT:

Everyday care of livestock projects can differ in varying programs. However, in an effort to keep track of the animal's health, performance, and well-being, it is important to implement daily procedures into a schedule. Along with daily care, preparing an animal for a livestock show begins months before entering the show ring. This process should start at home, when the animal is young and should include: halter/chain breaking, bracing, and leading. Fitting lambs and goats for livestock shows is also an essential component of exhibiting animals. Finally, personal appearance should be taken into consideration to demonstrate and uphold professionalism in the show ring.

Daily Care

Based on the feed program selected, animals should preferably be fed twice per day. It is recommended to find a time that animals can be fed and watered consistently every day. Whether feeding with individual feeders or in separate pens, keeping track of how much feed each animal consumes on a regular basis will allow the exhibitor to track how much weight that animal should be gaining. Along with feeding, check water levels to make sure the animals are taking in enough water, and to confirm they have a sufficient amount for the rest of the day. Clean out water buckets on a regular basis. Clean, fresh water is vital for the health and performance of any livestock project. Pens should also be cleaned out on a regular basis to ensure a comfortable and healthy environment. Hooves should be trimmed every four to six weeks and should never be trimmed right before traveling to a show as the animal can be temporarily lame if trimmed too short or cut into the quick of the hoof. Remember, no one knows the livestock project better than the exhibitor. Checking on animals throughout the day ensures the likelihood of noticing any behavioral changes that can be linked to illnesses.

Showmanship

Showing livestock projects is much like any other competitive event. Some individuals possess the natural ability to show an animal, whereas others do not. However, all showmen can learn techniques to enhance their showmanship skills. Training animals to show can be challenging as every lamb or goat is different. The level of experience of the showmen is also a factor when discussing the different ways to train an animal. With enough time and effort, most lambs and goats are trainable, even though some require more attention than others.

The first step of training an animal to show is to halter/chain

TIME:

30-45 minutes

MATERIALS NEEDED:

Guidance from a County Extension Agent, Agricultural Science Teacher, Mentor, 4-H Volunteer, or Livestock Ambassador is recommended for proper fitting and showmanship advice.

Explore Activity

- Clippers
- Clipper Blades
- Stopwatch

OBJECTIVES:

The 4-H member will:

- Understand the daily care required for a lamb or goat project.
- Learn the importance of training an animal for a livestock show.
- Learn the ways to trim/fit a lamb or a goat project for a livestock show.
- Learn the importance of professionalism in the show ring.





break the lamb or goat. This process consists of haltering sheep and chaining goats to the fence in a comfortable position. Make sure they are in a position where they cannot choke or lay down. Never leave animals unattended. During this process, setting their legs in a square position, while they are tied to the fence, will allow the animal to get accustomed to the exhibitor moving/touching their legs. This is the first step in building the relationship between the animal and the showman.

The next step in the showmanship process is teaching the lamb or goat to lead. Exhibitors should get animals out of their pen at home and let them become comfortable in other places. When teaching a lamb or goat to lead, be patient and give the animal plenty of slack until they become accustomed to leading. It is beneficial to have someone push the animal from behind whenever it stops to teach the lamb or goat to walk with its front shoulder in line with the showman's leg. Keep the animal's head up and at ninety-degree angle with its neck. The final part of the leading process includes becoming comfortable leading lambs without halters and setting the lamb or goat's legs in preparation to brace the animal.

Finally, bracing the animal requires the most work from the showman. Bracing can take some time to teach the animal. Showmen should stand in front of the animal and slightly to the left, given the right side of the animal is normally the side the judge is presented. Showman then place their feet in an "L" shape position, where the showman's left foot is placed horizontally in front of the lamb or goat's front feet and the showman's right foot should point toward the rear of the lamb or goat. Next, the showman applies pressure using the inside of the showman's left thigh and the showman's right leg should be used as support. Lambs and goats should be exhibited with all four feet on the ground. In some instances, lambs or goats may need to be lifted to get them to brace, but should then be returned to ground. Exhibitors must understand that bracing a lamb or goat is primarily accomplished by the legs of the showman; thus, the showman's hands are only used to keep control of the animal. Always keep lambs and goats in a straight line from the poll of their head to the end of their dock/tail. When bracing, the lamb or goat's head should be at a ninety-degree angle with the animal's neck, and the same is true for the neck-shoulder junction.

When presenting a lamb or goat in the show ring, always keep the animal between you and the judge. If the judge walks in front of the animal, move to the side and reset the lamb or goat's front feet to show the judge the front end. Keep an eye on the judge for movements or placings at all times. Showmen need to be sure to give themselves enough of room to present their animals in effort to be seen easily by the judge. Showmen should also avoid corners and low spots in the show ring.

Fitting

Fitting a lamb or goat for a livestock show is one of the most difficult aspects of exhibiting these projects. Most major livestock shows in Texas have guidelines regarding the fitting of lambs and goats for show. Exhibitors and their families should read each livestock show's rules and regulations before fitting an animal. When fitting a lamb or goat for a livestock show, it is important to keep in mind that the more times a lamb or goat is shorn, the greater the tendency to have a dry, stale, or winkled hide. It is recommended that lambs and goats are sheared two to three days prior to show day. Lambs and goats should be washed and dried before clipping, and sheared from the hock and knee up. Clean animals are easier to shear and this extends the life of the clipper blades. For best results, lambs and goats can be sheared damp, as this will allow the final appearance to look smoother and cleaner. Many types of clippers and clipper blades are available for use on sheep and goats. Normally, lambs are clipped using blades that leave 1/32" to 1/16" of wool, and goats are clipped using blades that leave 3/32" to 3/16" of hair. When shearing lambs and goats, start at the rear hock with the clippers running against the wool or hair in a long uniform pattern toward the head. When clipping a goat's tail, leave 1/2" of hair on the end of the tail and then blend the hair into the rest of tail. Tails should not be bobbed, instead is best if they are blended into a more uniform pattern. Immediately after shearing a lamb or goat, cover the animal with a lamb or goat blanket to protect their hide.





Personal Show Ring Appearance

When exhibiting any livestock project, professionalism is key. This is true not only in terms of dress, but also in attitude and presentation. Showmen should be dressed neatly and professionally but not overdressed. No caps, hats, t-shirts, or shorts are recommended in the show ring. Appropriate attire for showmen can include: button down collared shirts, jeans, a belt, and closed toed shoes or boots. Being confident is a trait that is desired and will also positively influence the animal's behavior. However, showmen should be cautious to not be over-confident. Keep in mind that a livestock show is one judge's opinion on a certain day and should not be taken personally. That being said, always be respectful and humble, regardless of the placing. A general recommendation is to be familiar with what the judge expects of showmen in the show ring by watching classes before exhibiting. Good showmen are always alert and know where the judge is at all times. Be courteous to ring stewards, other exhibitors, and the judge, and continue to keep showing until the class has concluded.

DO:

Activity: Proper Clipper Assembly

Preparation:

Obtain multiple different kinds of clipper sets. Can include: Lister, Oster, Andis, etc. Also gather different types and blade lengths of clipper blades.

Rules:

- Separate into small groups of three or four.
- Let each group try to assemble the clipper blade set.
- Moderator will demonstrate the correct assemble to the entire group
- Let participates each practice putting together a clipper blade set, and allow each group to pick a team leader who will represent them in a speed challenge.
- Each team leader will race to finish the fastest.
- Moderator will determine the winner based on time and assembly.

REFLECT:

- Showmanship plays one of the most important roles in success at any level of participation.
- How important is professionalism and sportsmanship in showing livestock?
- Why is fitting your project correctly important?

APPLY:

- Reference each major and county level livestock show guidelines and rules to obtain the proper fitting requirements.
- Attend a showmanship clinic to further your all around showmanship skills.




MARKING INSTRUCTIONS

CORRECT: ● INCORRECT: ✗ ⊗ ⊖ ⊕

4-H Explore Project Book Evaluation - Sheep & Goats

1. Please read the statement in the left column of the table below. Bubble in the circles that describe your level of understanding **BEFORE** attending this program. In the section on the far right, bubble in the circles that describe your level of understanding **AFTER** attending this program. You will have two bubbles per row.

LEVEL OF UNDERSTANDING: 1 = Poor, 2 = Average, 3 = Good, 4 = Excellent	BEFORE				AFTER			
As a result of participating in the Sheep & Goat project lessons and activities...	1	2	3	4	1	2	3	4
I understand the age requirements of lambs and goats at major livestock shows in Texas.	☐	☐	☐	☐	☐	☐	☐	☐
I understand what the 5 basic nutrients are that are required for all livestock.	☐	☐	☐	☐	☐	☐	☐	☐
I understand the proper supplies needed when traveling to major livestock shows.	☐	☐	☐	☐	☐	☐	☐	☐
I understand the relationship between exercise and nutritional demands for lambs and goats.	☐	☐	☐	☐	☐	☐	☐	☐
I understand the importance of professionalism in the show ring.	☐	☐	☐	☐	☐	☐	☐	☐
I understand what the various breeds of sheep are at the major livestock shows in Texas.	☐	☐	☐	☐	☐	☐	☐	☐

2. For each statement below, fill in the bubble that best describes you.

INTENTIONS TO ADOPT:	Yes	No	Unsure
As a result of participating in the Sheep & Goat Project lessons and activities...			
I can assist with the selection of my lamb or goat project.	☐	☐	☐
I will adopt an exercise program for my lamb or goat project.	☐	☐	☐
I plan to purchase the appropriate supplies for my project before the purchase of my animal.	☐	☐	☐
I will study the breed qualifications before the purchase of a lamb for livestock shows.	☐	☐	☐
I will add forage to my lamb or goat project's diet.	☐	☐	☐
I will build my pens to be secure from outside predators.	☐	☐	☐

3. For each statement below, fill in the bubble that best describes your level of agreement with the following statements.

BEHAVIOR CHANGES:	Strongly Disagree	Disagree	Agree	Strongly Agree
As a result of participating in the Sheep & Goat Project lessons and activities...				
I am more comfortable working in a team.	☐	☐	☐	☐
I am more willing to listen to others.	☐	☐	☐	☐
I am more comfortable speaking with others.	☐	☐	☐	☐
I am more confident in my abilities as a leader.	☐	☐	☐	☐

MARKING INSTRUCTIONS

CORRECT: ● **INCORRECT:** ✗ ✖ 🚫 🚫

3. What is the most significant thing you learned in the Sheep & Goat project?

Please tell us about yourself.

Gender: ☐ Female ☐ Male

I consider myself to be: ☐ African American ☐ White
 ☐ Asian American ☐ Other
 ☐ Native American

I consider myself to be: ☐ Hispanic ☐ Non-Hispanic

Grade: ☐ 3rd ☐ 5th ☐ 7th ☐ 9th ☐ 11th
 ☐ 4th ☐ 6th ☐ 8th ☐ 10th ☐ 12th

Most of the time, you live . . .

☐ Farm or ranch ☐ Suburb of city between 50,000
☐ Town less than 10,000 ☐ Central city/urban center with more than 50,000
☐ City between 10,000 - 50,000

Please provide any additional comments below.

