The 4-H Dairy Goat Project:
AN INTRODUCTION

UNIVERSITY OF WYOMING
Cooperative Extension Service

10704C
July 2002
Prepared by:

**Stephen R. Schafer**

4-H and Youth Specialist  
Livestock, Equine, Poultry, and Rabbit Programs  
University of Wyoming Cooperative Extension Service

**Reviewers**

**Lise Foy**  
4-H Program Associate, Sheridan County  
University of Wyoming Cooperative Extension Service

**Ron Kaufman**  
4-H Program Associate, Goshen County  
University of Wyoming Cooperative Extension Service

**Jill Klein**  
4-H Program Associate, Platte County  
University of Wyoming Cooperative Extension Service

**Brett Moline**  
County Coordinator, Albany County  
University of Wyoming Cooperative Extension Service

**Phil Rosenlund**  
County Coordinator, Laramie County  
University of Wyoming Cooperative Extension Service

**Jim Waggoner**  
Livestock Range, Nutrition, and Management Specialist  
University of Wyoming College of Agriculture

**Editor**

**Karol Griffin**  
College of Agriculture  
Office of Communications and Technology

**Graphic Designer**

**Tana Stith**  
College of Agriculture  
Office of Communications and Technology

**Acknowledgments**

Some of the material (both information and illustrations) for this publication came from 4-H Goat Project manuals in California, Louisiana, Minnesota, Oklahoma, Pennsylvania, Texas, and other State Cooperative Extension Service presses. These contributions are greatly appreciated.

Mention of products, companies, or individuals is made with the understanding that no discrimination is intended, and no endorsement implied by the University of Wyoming Cooperative Extension Service.

Issued in furtherance of Cooperative Extension work, acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture. Glen Whipple, Director, Cooperative Extension Service, University of Wyoming, Laramie, Wyoming 82071.

Persons seeking admission, employment, or access to programs of the University of Wyoming shall be considered without regard to race, color, religion, sex, national origin, disability, age, political belief, veteran status, sexual orientation, and marital or familial status. Persons with disabilities who require alternative means for communication or program information (Braille, large print, audiotape, etc.) should contact their local UW CES Office. To file a complaint, write the UW Employment Practices/Affirmative Action Office, University of Wyoming, P.O. Box 3434, Laramie, Wyoming 82071-3434.
Table of contents

Introduction.................................................................................. 1
Selecting a dairy goat project ........................................................ 1
Parts of the dairy goat. ................................................................. 2
Goat terms.................................................................................... 2
Dairy goat breeds. ......................................................................... 3
Housing, care, and feeding ............................................................ 6
Health care. ................................................................................ 11
Fitting and grooming .................................................................. 12
Showing the dairy goat ............................................................... 15
Identify the dairy goat parts ....................................................... 20
Introduction
The 4-H dairy goat project is an exciting and educational opportunity for 4-H members. It requires very little room, expense, or daily chore time. It is also a short-term project, especially when compared to the horse, beef cattle, or dairy cattle projects. A goat is also much smaller and easier to control and handle.

Selecting a dairy goat project
There are three main types of goat projects: (1) fiber goats, (2) dairy goats, and (3) market goats. The fiber goat project is simply raising the goat for its hair, which is known as mohair or cashmere. This project is very minor in 4-H and thus will not be discussed in further detail. The dairy goat project is designed for 4-H members with an avid interest in the production and reproduction of goats. The market goat project (also known as meat goat project) is designed for club members interested in goats, but to a lesser degree. In keeping with the name of the project, the market goat project participant purchases a young kid, feeds and cares for it, fits and grooms it, shows it, and finally sells the goat.

The club member who chooses the dairy goat project also feeds, cares for, fits, grooms, and shows the goat. However, in contrast to the market goat project participants, dairy goat project participants exhibit breeding goats (bucks and does), which are not sold at the county fair youth sale. The club member is able to return home with these goats and continues to care for them to produce milk and kids. These kids are then kept to show, sell to market, and/or sell to other club members for their project. The milk produced by the does is sold.

This project manual discusses and explains the dairy goat project. If you are interested in the market goat project, it is explained in a separate manual.
The dairy goat project is gaining popularity among 4-H members in the United States. Kids grow fast and cost less to raise than most other types of livestock and a goat project can be quite profitable. A goat project requires less room, less daily chore time, less expense (for both feeding and housing), and is a short term project (for market goats).

**Parts of the dairy goat**

Selecting a goat to show is as important as the feed and care that you give the goat once you bring it home. The dairy goat project should begin with a healthy and high quality goat.

Before you can identify and select a high quality dairy goat, you must know what one looks like. The first step in this process is to learn the important parts of a dairy goat. The drawing illustrates the most important parts of a dairy goat.

**Goat terms**

Understanding the vocabulary used by goat producers, exhibitors, and judges is also a necessary step in learning about goat selection and production. Knowing the terms listed below will greatly assist you when communicating with people in the goat business.

- **breed**: a group of animals with common ancestry and with similar characteristics that are passed on from generation to generation
- **breeder**: owner of the parents of the goats when they were mated
- **buck**: an uncastrated male goat, sometimes referred to as a “billy”
- **cashmere**: a description of all goats that produce cashmere, which is a very fine fiber in this type of coat
- **castrate**: to remove the testicles
crossbred: an animal with parents of different breeds
dam: the mother of a particular kid
doe: a female goat
disbud: removal of horn buds, before one week of age
elf ear: LaMancha ear, up to two inches long
kid: a newborn, infant, or young goat
mohair: goat wool
kidding: the process of giving birth
purebred: an animal with same-breed parents and that could be recorded in an association registry
sire: the father of a particular kid
udder: the milk-producing and milk-holding gland
wether: a goat that has been castrated
yearling: an animal between one and two years old

Dairy goat breeds
The goat is probably the oldest domesticated animal, other than the dog, today there are over 200 breeds and varieties. Through evolution, selection practices, and genetics; goats have developed and evolved to possess similar characteristics that include color, color pattern, size, and purpose (meat, milk, fiber, or a combination of these traits).

The major breeds of dairy goats raised in the United States are Alpine, LaMancha, Nubian, Oberhasli, Saanen, and Toggenburg. There is very little difference in the production records of these breeds, except that the Nubian rarely gives as much milk as the other breeds.

Alpine. Alpines were first imported to the United States in 1922. Alpines have three distinct and separate divisions or classifications: (1) French Alpine, (2) Swiss Alpine, and (3) Rock Alpine. The French Alpine originated in France and is the most popular Alpine in the United States. The Swiss Alpines originated in Switzerland and, on the average, do not produce as much milk as French Alpines. The Rock Alpine was developed in the United States by cross breeding the French Alpine with the Swiss Alpine.

Size and production characteristics have been emphasized in the development of Alpines. Therefore, no color or color pattern has been established. They come in many combinations of white, black, gray, and brown. Alpines are short haired, but the bucks usually have a roach (ridge) of long hair along the spine. They may be polled or horned. The ears should be erect, medium sized, and finely textured.

The Alpine is a large framed goat. A mature buck will be 34 to 40 inches tall at the withers and will weigh 170 pounds or more. Adult does will stand a minimum of 30 inches tall at the withers and weigh at least 135 pounds. Typically, the does have large and well-shaped udders with well-placed and desirable shaped teats. They are excellent milkers; over the ten month lactation period they will average about 2,000 pounds of milk with a butterfat content of three percent.
LaMancha. This is a fairly new breed that originated in the United States. It was developed in Oregon by Mrs. Eula Frey. She bred short eared goats from Spain with breeds from Switzerland. The first purebred animals were registered in 1958.

Any color or color combination is acceptable. The hair is short, fine, and glossy, but hair is not the distinguishing characteristic of LaManchas. Their most identifiable trademark is their extremely small ears. This genetically dominant characteristic expresses itself in two forms: elf ear and gopher ear. The gopher ear is defined as having a maximum length of one inch (however, nonexistent is preferred), with very little or no cartilage. The end of the ear must be turned up or down. The elf ear is described as having a maximum length of two inches. The end of the ear must turn up or down and cartilage shaping the small ear is allowed.

Due to high quality animals being used in the development of this breed, they have excellent milking potential and adaptability. During the ten month lactation period they will produce 1,800 pounds of milk with a butterfat content of 3.8 percent.

Nubian. Some people refer to this breed as Anglo-Nubian. The Nubian was developed in England as a dual purpose breed for milk and meat from African, European, and Indian breeds. It has been in the United States since the late 1890s or early 1900s and has become the most popular breed in the U.S.

The Nubian has an aristocratic appearance. It has a Roman Nose and very long ears that hang close to the head. The hair is always short and any solid or parti-colored coat is permitted. However, black, red, and tan are the most common colors and any of these may be carried in combination with white. It is a very large breed, with a mature buck weighing 175 to 275 pounds (sometimes as high as 300 pounds) and a mature doe weighing 135 to 170 pounds (sometimes as high as 200 pounds). Production traits include a kidding rate of 165% to 190%, an average daily gain of 0.16 to 0.26 pounds, and a five percent butterfat content in their milk.

Oberhasli. This breed originated in Switzerland and performs well in cool climates. It has a medium sized frame and they tend to be vigorous, alert, and attentive.

Chamois is the preferred color, but some does are black. Chamois is described as bay-ranging light tan to a dark and deep red, with the dark and deep red being the preferred color. A few white hairs throughout the coat and around the ears are allowed. Other markings include a black muzzle, a forehead that is nearly all black, two black stripes down the face (from above each eye to the
muzzle), black stripes from the base of each ear coming to a point just behind the poll and continuing along the neck and back (like a dorsal stripe to the tail), a black belly and udder, black legs below the knees and hocks, as well as ears that are black on the inside and bay on the outside.

Bucks will often have more black than the does. They may have more black on their heads, black whiskers, or black hair along the shoulders and lower chest. It is not uncommon for bucks to have more white hairs throughout the coat.

The face should be straight. A Roman nose is discriminated against.

**Saanen.** This breed originated in the Saanen Valley of Switzerland. They perform best in climates with cooler conditions and are sensitive to excessive sunlight. Access to shade is an essential management tool for producers of Saanens.

Saanens are the largest of the dairy goat breeds. They are white or light cream in color, but white is preferred. Spots on the skin are acceptable. Also, small spots of color in the hair are permitted, but are not desired. The hair is short and fine. A roach of long hair is often present along the spine and/ or thighs. They may be polled or horned with ears that are erect, alert, and pointing forward. The face should be straight or dished. A roman nose is discriminated against.

Saanens are often referred to as the Holstein of dairy goats because of their large size, relatively high milk production, and slightly lower butterfat content of their milk. They can produce over 2,000 pounds of milk with a butterfat content of 3.5 percent during the ten month lactation period.

**Toggenburg.** This is considered to be the oldest known dairy breed, with a registration book dating back to the 1600’s. They originated in the Toggenburg Valley of Switzerland in the village of Abertoggenburg. Toggenburgs (like Saanens) perform best in cooler conditions. However, since the Toggenburg has brown hair (fawn to dark chocolate), it is not sensitive to sunlight.

Toggenburgs are small to medium in size. Their various shades of brown hair are short or medium in length, have a fine texture, and lay flat. They also have distinctive white markings. Two white stripes start above each eye and come down the face to the muzzle. The front legs are white from the knees downward and the hind legs are white from the hocks to the hooves. A white triangle is present on either side of the tail, and the erect ears are white with a dark spot in the middle.

Toggenburgs are noted for their adaptability and excellent udder development. They have high milk production and butterfat content. They will produce 2,000 pounds of milk and it will have an average butterfat content of 3.7 percent.
Housing, care, and feeding

Successful goat producers have to take care of many details to ensure that their animals are comfortable. After all, a comfortable goat is more likely to be healthy and grow efficiently. There are five main items that influence and affect the comfort level of the goat: (1) high quality housing, (2) environmental control, (3) clean feed, (4) fresh water, and (5) the company of its owner because of the tender loving care (TLC) provided.

The housing for goats may be simple and inexpensive, or it may be as elaborate and as expensive as you want to make it. Either way it must be functional – both for you and for the goat. The housing must provide protection from the heat and sun, as well as protection from the wind, rain, and cold. It should also be large enough to accommodate both the goat and the people who need to enter the pen to care for it. Some key items to remember when building the shed and pen are:

- The shed should provide both ventilation in the summer and protection from the cold winds and drafts of winter. It should also be well drained. If these conditions are not met, the goat will not be as comfortable, not eat properly, and not grow as quickly or efficiently.

- Dirt floors that are well bedded and dry are preferred for goats. Wood and other materials are also acceptable, but make sure that plenty of bedding is provided. Regardless of the floor you choose, or already have, change the bedding at least once a week.

- The shed, pen, and exercise area should be dog-proof.

- Design the feeding area so that you can easily re-arrange the feeding pens and/or divide them into larger or smaller units.

- Design the shed to allow for easy feeding and watering and to keep the area as clean and dry as possible. This helps
lessen the chance of bacteria buildup, resulting in a healthier goat.

- The shed should be built tall enough to accommodate both you and your parents. Also, put the latches and locks where you can reach them, but not where the goats can get to them.

No matter how old or how healthy the goat is, it will not do very well without a proper place to live. A goat needs a proper home as well as proper care, feeding, and watering.

As previously discussed, environmental control tends to go along with housing. Since goats prefer temperatures of 50 to 60 degrees, there are two areas of concern when discussing environmental comfort: (1) cold and/or wet weather and (2) hot and/or dry weather. In cold and/or wet weather, a place to get out of the weather (the shed) must be supplied. In extremely cold weather, a source of heat may also be required. Perhaps the easiest and most effective way to do this is with additional bedding and the use of heat lamps.

Safety note: To avoid a possible fire hazard, an adult should set up the heat lamps.

In hot and/or dry weather, a source of shade (the shed) must be provided. Also, double-check to make sure that the drinking water is cool, clean, and fresh. If the shade and drinking water are not providing enough relief, additional cooling must be provided. Usually an electric fan is all that is needed. However, if this is insufficient, a sprinkler or mister system used in conjunction with the fan should provide enough cooling.

Safety note: Water and electricity are not a good mix. Therefore, an adult should set up the fan and sprinkler/mister system.

Cool, clean, and fresh drinking water must be available at all times. If you use an automatic watering system, check the system daily. After all, if it isn’t working, it isn’t automatic. As a result, the goats would not be getting the water they need. If you use a bucket, pan, or tank; make sure that you change the water several times each day. The drinking water should never be allowed to get hot.

In the winter, make sure that the water does not freeze. This is important because goats, like other animals, will not grow properly without sufficient water. Regardless of the season, all watering equipment should be checked and cleaned on a regular basis to ensure that it is providing plenty of cool, clean, and fresh water.

Proper nutrition and feeding of the goat are the primary areas of concern for most 4-H members. However, with the commercial feeds that are available today, nutrition is not as much of a concern as it used to be. The biggest issues with feeding are making sure that the feed is clean and fresh, as well as making sure that the feed pans and feeders are clean.
To evaluate rations, you must first understand a few simple concepts and terms about feeds and rations. Ration is the total combination of foods that the animal is consuming. Feed is a mixture of feedstuffs. Feedstuffs are classified as either a concentrate or a roughage. Roughages are forages such as clover, alfalfa, and other grasses. Concentrates are grains such as corn, oats, wheat, and etc., and they have more energy or calories when compared to roughages, which are higher in fiber.

The Crude Protein (CP) content of goat rations is the most practical and common measurement available to evaluate and compare the quality of goat feed. The amount of protein in goat rations is much more important than protein quality. Regardless of the quality of protein fed, it is changed into a useable nutrient by the bacterial action in the rumen of the goat stomach. For this reason, goats can effectively utilize lower quality feeds and rations.

Properly harvested legume hays (clovers and alfalfa) have a protein content of 12 to 20% and, when used as a complete ration, will provide adequate to surplus protein for goats. However, CP is not the only factor that must be considered when evaluating and comparing goat rations. Total Digestible Nutrients (TDN) must also be considered. TDN is a measure of energy or calories in the feed. TDN is a more accurate measurement of the concentrates or grains in the ration because these feedstuffs are relatively low in CP (8 to 11%), but are relatively high in TDN (70 to 90%).

Therefore, in order for a goat ration to provide a complete diet, it must have the correct balance of crude protein and total digestible nutrients. Thus, both roughages (hay and/or pasture) and concentrates (grains) must be provided to ensure proper nutrition. Most goat producers also provide a mineral block as a safe-guard against possible nutritional deficiencies.

The goal of the dairy goat project is to obtain a goat that is properly conditioned and producing a high volume of high quality milk. Unfortunately, there are no specific measurements (weight, height, age, etc) that automatically informs the producer that the goat is ready. Some goats such as those of smaller frame size may be capable of breeding at 80 pounds. However, larger frame goats may not be ready until they reach weights of 100 to 120 pounds. Therefore, specific recommendations for feeding are not possible – especially, considering that feed requirements vary according to the age of the goat, size of the goat, stage of gestation, stage of lactation, and other factors. However, the following general conditions apply:

- Frame size is only an indicator of the adult weight of the goat. It does not indicate quality. There are good small goats and good big goats.
- Gestating does need an additional 1 to 2 pounds of feed per day. Lactating does require an additional 2 to 3 pounds of feed per day.
- Dairy goats should weigh at least 80 pounds before the first breeding.
- Dairy goats should be at least eight months old before the first breeding.
- The length of neck and length of cannon bone are indicators of frame size. Longer usually indicates a larger framed goat.
Increase the amount being fed as the stage of gestation or stage of lactation progresses.

Since goats do not deposit external fat as quickly as other animals, a self-feeding program can be used. Whether using a feeding schedule or a self-feeding program, Table 1 provides valuable feeding guidelines.

As stated earlier, goats can be placed on a self-feeder and will usually perform quite well, which is a plus because this also allows timid eaters time to eat. However, it is important to realize that goats, like other animals, vary in their ability to digest food. Some will get fat on a smaller amount of feed, while some will stay thin on a larger amount of feed. Therefore, the goat must be monitored on a regular basis and any adjustments in feed, feeding, or exercise should be made according to these observations. Whether on a self-feeder or on a feed schedule, feeding is a daily responsibility and must never be overlooked.

Feeding note: Regardless of the condition of the goat, hay and/or pasture should never be completely removed from the diet because digestive problems may result. Also, changes in feed or feeding should be made on a gradual basis.

If you feed according to these guidelines and recommendations shown in Table 1 and watch the goat’s health and body condition, you should have very few feeding problems and a more successful and enjoyable goat project. If you have questions or concerns regarding the care or feeding of the goat, contact your County Extension Office for assistance and advice.
Table 1. Goat feeding guidelines

<table>
<thead>
<tr>
<th>Age of goat</th>
<th>Feed/Ration</th>
<th>Amount to feed each day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Birth to three days</td>
<td>Colostrum (replacer or milk)</td>
<td>Provide all the kid wants</td>
</tr>
<tr>
<td>Three days to three weeks old</td>
<td>Whole milk (cow or goat)</td>
<td>Two to three pints</td>
</tr>
<tr>
<td></td>
<td>Water and salt</td>
<td>Provide all the kid wants</td>
</tr>
<tr>
<td>Three weeks to four months</td>
<td>Whole milk (cow or goat)</td>
<td>Two to three pints</td>
</tr>
<tr>
<td></td>
<td>Creep feed&lt;sup&gt;a&lt;/sup&gt;d</td>
<td>All the kid wants, up to one pound</td>
</tr>
<tr>
<td></td>
<td>Alfalfa/ high quality grass hay</td>
<td>Provide all the kid will eat</td>
</tr>
<tr>
<td></td>
<td>Water and salt</td>
<td>Provide all the kids wants</td>
</tr>
<tr>
<td>Four months to market</td>
<td>Growing/ finishing ration&lt;sup&gt;d&lt;/sup&gt;</td>
<td>Provide via a self-feeder or a feed schedule, but reduce the amount being fed if the goat starts to get fat</td>
</tr>
<tr>
<td></td>
<td>Alfalfa/ high quality grass hay or pasture</td>
<td>Provide all the kid will eat, but monitor intake if the goat starts to get fat</td>
</tr>
<tr>
<td></td>
<td>Water and salt</td>
<td>Provide all the goat wants</td>
</tr>
<tr>
<td>Four months to freshening</td>
<td>Grain mixture&lt;sup&gt;b&lt;/sup&gt;d</td>
<td>Up to one pound of a high protein feed</td>
</tr>
<tr>
<td></td>
<td>Alfalfa/ high quality grass hay or pasture</td>
<td>Provide all the doe will eat</td>
</tr>
<tr>
<td></td>
<td>Water and salt</td>
<td>Provide all the doe wants</td>
</tr>
<tr>
<td>Dry but pregnant doe</td>
<td>Grain mixture&lt;sup&gt;b&lt;/sup&gt;d</td>
<td>Up to one pound</td>
</tr>
<tr>
<td></td>
<td>Alfalfa/ high quality grass hay or pasture</td>
<td>Provide all the doe will eat</td>
</tr>
<tr>
<td></td>
<td>Water and salt</td>
<td>Provide all the doe wants</td>
</tr>
<tr>
<td>Milking doe</td>
<td>Grain mixture&lt;sup&gt;c&lt;/sup&gt;d</td>
<td>Minimum of one pound for up to two quarts of milk per day -- add one pound of grain mixture for each additional two quarts of milk produced per day</td>
</tr>
<tr>
<td></td>
<td>Alfalfa/ high quality grass hay or pasture</td>
<td>Provide all the doe will eat</td>
</tr>
<tr>
<td></td>
<td>Water and salt</td>
<td>Provide all the doe wants</td>
</tr>
</tbody>
</table>

<sup>a</sup> The creep feed may be a commercially mixed milk supplement or calf starter.

<sup>b</sup> A possible grain mixture for growing or dry does is: 15 pounds of beet pulp; 15 pounds of wheat; 20 pounds of linseed, cottonseed, or soybean oil meal; and 50 pounds of oats or barley.

<sup>c</sup> A possible grain mixture for milking does is: 10 pounds of linseed, cottonseed, or soybean oil meal; 15 pounds of beet pulp; 20 pounds of wheat; and 55 pounds of oats or barley.

<sup>d</sup> If you use a commercially produced feed, use it according to your goat's stage of growth.
Health care
In order to have a successful goat project, it is extremely important to start with a healthy goat and to maintain the health of the goat throughout the project. Therefore, you must be able to identify the difference between a healthy goat and an unhealthy goat.

A healthy goat will be alert, frisky, playful, bright-eyed, and happy to see you. A healthy goat will drink plenty of water and eat with eagerness. The stool (manure) will be pelleted, firm, and moist. The breathing will not be loud or labored and the rate will be 20 to 30 breaths per minute. The normal body temperature of a goat is approximately 103 degrees and the pulse rate is 60 to 80 beats per minute.

An unhealthy goat will have a decreased appetite. It will not drink as much, and will not be frisky or happy to see you. It will also appear dull-eyed, listless, depressed, shrunken, and have a dull coat. It may also have a hump or arch to its back and will most likely be standing away from the rest of the herd. The stool may be very dry and hard (constipated) or just the opposite - very watery and loose (scours). The breathing may be hard, fast, and labored; and the body temperature may be higher than normal (any temperature higher than 104 degrees is considered a fever).

If you think the goat is sick, there are two very important steps to follow: (1) tell your parents and (2) separate the sick animal from the other goats. After getting advice from a veterinarian or other professional, follow that advice very carefully. Following the schedule shown in Table 2 will also greatly enhance the chances of having a healthy goat project.

Many diseases and health problems may affect the goat. However, mastitis is a disease that requires special attention because it affects the milk-producing system of the dairy doe. Mastitis is an inflammation of the udder (mammary gland or milk giving gland) of goats and other milk-producing animals. It is usually caused by bacteria. The symptoms of mastitis are pain and swelling of the udder, and it will feel hot and hard when touched. Usually, there will also be discoloration of the udder and of

Table 2. Care schedule for kids

<table>
<thead>
<tr>
<th>Age of kid</th>
<th>Activity to perform or accomplish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Three days</td>
<td>Begin feeding alfalfa, grain, and water</td>
</tr>
<tr>
<td>One week</td>
<td>Disbud and tattoo ID in ears; castrate bucks</td>
</tr>
<tr>
<td>One month</td>
<td>Immunize with Enterotoxemia C&amp;D and Tetanus Toxoid; trim hooves</td>
</tr>
<tr>
<td>Two months</td>
<td>Second immunization; trim hooves</td>
</tr>
<tr>
<td>Three months</td>
<td>Wean and deworm; trim hooves</td>
</tr>
<tr>
<td>Four months</td>
<td>Trim hooves</td>
</tr>
<tr>
<td>Five months</td>
<td>Feed grain in stanchion and handle udder; trim hooves</td>
</tr>
</tbody>
</table>
the milk. The infected udder will change in color from pink to red. Along with changing color, the milk will also change texture and thickness. Laboratory culture or growth of the bacteria causing the mastitis is the best way to determine the exact diagnosis.

Consulting a veterinarian is very important step when trying to achieve a successful treatment this disease because there are many different bacteria that can cause mastitis. Identifying the bacteria leads to a knowledgeable choice of antibiotic, which makes a big difference is the success or failure of the treatment. If the treatment choice is unsuccessful or if the infection goes untreated, spread of the disease is very likely, and the infected goats may die or lose their udders.

The treatment of mastitis consists of antibiotics given directly in the udder, as well as additional oral or injectable antibiotics. However, prevention is much better than treatment. The causes of mastitis are most commonly rough treatment of the goat and/or her udder. Also, unclean management and milking practices are a major cause of mastitis. Gently wash the goat's udder before milking and dip or spray the teats after milking with a teat dip. Wash your hands before milking each goat to prevent spreading the bacteria.

Mastitis, like most diseases, is fairly easy to control once you know what the problem is and provide the proper treatment. Mastitis and most other health problems can be avoided or kept to a minimum by following these seven steps:

- Buy only healthy goats from healthy herds.
- Keep all vaccinations up-to-date.
- Maintain a de-worming program.
- Clean the shed and pen at least once a week.
- Clean the waterers and feeders at least once a week - twice a week is much better.
- Watch the goat closely and on a daily basis for signs of sickness and ill-health
- Inform your parents if you think the goat is sick.

**Fitting and grooming**

Fitting and grooming does not start at the show or even during the week of the show; it starts the day you bring the goat home. Fitting the goat means feeding, watering, and otherwise caring for the goat so that it achieves and maintains the proper body condition required to produce the most milk.

Proper condition means the goat is neither too fat nor too thin and is capable of pro-
ducing the highest volume of high quality milk. Proper condition has the same meaning for all dairy goats. Through experience you can learn what varying degrees of fat look and feel like. Fat feels soft and loose. Muscle or meat feels hard and firm. Bone feels very hard and concrete. Fat, also known as cover or finish, gets deposited on the goat in specific areas.

By knowing these areas, it is possible to estimate how fat the goat is or is not getting. The areas to check for fat deposit are the ribs, backbone, tailhead, fore flank, and rear flank. To ensure that proper condition is achieved and maintained, it is important that you learn this before adjustments are made to the goat’s feed, feeding, or exercise routine.

Even though proper condition has the same meaning or standard for all dairy goats, they do not all achieve proper condition at the same time or in the same manner. Some goats will start to get fat at a young age and others remain lean all the way through gestation and lactation. Goats that start to get fat at a young age must be removed from full feed and put on a restricted diet (less feed per day). These goats should also be exercised at least 10 to 15 minutes each day in addition to the 10 to 15 minutes that they were receiving to achieve and maintain show condition.

Goats that naturally stay lean can be left on full feed throughout breeding, gestation, and lactation; but they should also receive the normal 10 to 15 minutes of exercise needed per day to achieve and maintain show condition.

Regardless of the condition of the goat, limit hay for the last thirty (30) days before the show. The reason for this is that hay causes the goat to appear wasty in the middle, because of the gases created in the rumen of their stomach. Do not reduce the hay before this time, because if hay is removed from the diet for more than thirty (30) days, digestive problems may occur – especially if the goats are confined to a small area.

Grooming a dairy goat for show is a fairly simple and easy process. Grooming, like fitting, does not start at the show or even during the week of the show; it starts the day that you bring the goat home. Grooming consists mostly of washing and then brushing the hair, both of which should be done on a regular basis from the first day you get the goat home.

Goat grooming can be divided into three categories: washing, clipping, and foot care. Equipment and items needed for washing are a halter (for leading and tying the goat), hose and/ or pail, scrub brush, mild soap or detergent, and some way to dry the goat – a couple of towels will work just fine. Livestock blow dryers are also available, but they are expensive.

Items needed for foot care are foot trimmers and foot care medication for after the trimming. Trimming the feet, like fitting and grooming, is a fairly simple process. The feet should be trimmed a time or two before the final foot trimming is undertaken. This allows both you and the goat to learn what is happening and what to expect. The final trimming for the show should be done approximately 14 to 21 days before the day of the show. This allows time for healing.

Items recommended for clipping include livestock clippers and/ or sheep shears (use 20 to 22 tooth combs in the sheep shears),
small animal clippers (for use on the ears and face), oil for the clippers, scissors or small 6 to 8 inch hand shears (for hard to reach places), a sharpening stone (for keeping the hand shears sharp), a spray bottle (for wetting the hair), a clipping or trimming table (for holding and controlling the goat while it is being clipped and groomed), and an extension cord.

Safety note: Livestock clippers (not sheep shears) are recommended for use by younger exhibitors because they are less likely to cut themselves or the goat.

After completing the clipping and other grooming, protect the work with a goat blanket. Goat blankets are commercially available, but can be expensive. Pillow cases and burlap sacks can be used by cutting hole for the head in one of the corners, slitting the bottom seam, and adding tie straps. Old sheets, left-over sewing fabric, and spandex can be easily made into blankets.

If you have clipped the goat a time or two before the final clipping, both of you will have a better idea of what to do and how to do it. As a result, the goat will not be as scared, nervous, and jumpy. Also, this gives the exhibitor an idea of how fast the goat’s hair grows and this is important knowledge because the final clipping can be made at the correct time to ensure that the goat will look its best on the day of the show. (As general guideline, 10 to 20 days before the day of the show is usually the recommended).

The first step in clipping a goat is to wash it. Washing involves wetting the goat,
soaping and scrubbing (gently, but firmly), and thoroughly rinsing the goat.

Washing note: The cleaner the goat, the easier it will be to clip and the longer the clipper blades will stay sharp (because they are not getting dulled by dirt particles). Therefore, make sure that the goat is extra clean.

After washing the goat, place it on the clipping stand and prepare it for clipping by calming it down and drying it (damp dry). The goat should remain damp because it is much easier to clip when damp.

When clipping the goat, start at its rear and clip off the hair in long, smooth, and even strokes. Use vertical strokes on the legs and horizontal strokes on the body and flank areas (see the drawing). Clip all of the hair on the body except for the tail.

When grooming the tail, remove only about the top one-third of the hair on the tail. The remaining hair on the tail should be blended into the clipped part. The hair at the end of the tail should be cut to a length of about one-half of an inch. The last step for the tail is to clip the hair completely off the underside of the tail and blend this into the remaining tail hair.

Some shows allow (and some exhibitors prefer) to keep the hair below the knees and hocks. These are called britches. If you prefer this, the leg hair should be smoothed by clipping only the long hairs and the hair around the hoof. It is recommended that this clipping be done by using a downward stroke. This results in a smoother and more even appearance.

The final grooming step is to use the small animal clippers to remove the hair from around the goats ears, eyes, and face. Also, use the hand shears or scissors to touch-up any hard-to-reach places, to blend in areas, or to smooth out any rough spots. Following these guidelines will result in the goat having a more uniform appearance.

Grooming note: No amount of grooming can correct or make up for a poor job of feeding, care, and management of the goat.

**Showing the dairy goat**

Showing the goat, like fitting and grooming, does not start at the show; it also starts at home. It begins with the feeding, exercising, washing, brushing, clipping, and other tasks that you should be doing from the very first day that the goat arrives at its new home.

Proper feeding gets the goat to the desired show weight. Exercising the goat gets it in show condition (lean, not fat) and in show ring shape (able to walk and be in the ring for a long period of time without tiring). Washing, brushing, clipping, trimming, and other grooming techniques make the goat neat, clean, and otherwise presentable to the judge.

Training the goat to work with you begins by earning its trust and confidence, and by making friends with it. This is accomplished by playing with it, brushing it, and otherwise spending time with it. When the goat stops running from you when you enter the pen, it is ready to start the exercise and training routine.

Caution note: Goats will almost always run when you enter the pen, you need to learn if they are running in fear or in play and excitement.

The first step is to catch the goat. Since goats are shown with a choke chain or col-
lar and lead strap, the second step is to get them used to wearing the choke chain or collar and lead strap. This is usually accomplished by putting them on for short periods of time and then gradually increasing the time that the goat has them on.

Safety note: During these sessions, the goat should never be left unattended.

When the first two steps are achieved, they should be followed by gently talking to the goat, petting it, and rubbing or touching it. Touch and rub down the back, sides, neck, and legs to get the goat accustomed to you and to being touched. The fourth step is walking with the goat. When walking the goat, teach it to lead with its front shoulder even with your leg. The goat’s head should be in front of the your leg.

Leading note: This is very similar to how dogs are led when they are being exhibited.

After the goat has become accustomed to being caught, collared, touched, and walked; the next step is to teach it to set-up. Setting-up means getting each leg to come straight down from the body. Many new exhibitors get this only half right. Remember, straight not only means straight when the goat is viewed from the side, but also when it is viewed from the front and the rear.

When this is performed correctly it is referred to as having the feet and legs squarely under the body or standing square. It does not matter if you set the front legs first and then the back legs or the other way around; either method is acceptable.

When placing or setting the front feet and legs, raise or lift the goat’s head and neck (very slightly) by lifting on the lead strap (this is to cue the goat so that it knows the front feet are being set). When the feet and legs are set, return the head and neck to their normal position.

To set the rear feet and legs, push down on the goat’s head and neck (very slightly) to cue the goat. When the back feet and legs are set, return the head and neck to their normal position.

Now that the goat has all four feet and legs in the desired position (this is fairly easy, if it was practiced at home), they must be kept in the proper position. This is done by standing on the left side of the goat and keeping it relaxed (but alert) by talking to it (very softly) or by wiggling the lead strap, or by some other subtle method. Using the lead strap or leash, either by pushing or pulling on it, also allows you to keep the back, neck, and head of the goat in a straight line.

Since the choke chain or collar and lead strap are controlled by your right hand, your left hand is free to do whatever else might need to be done – re-setting a foot,
rubbing the goat’s head or neck to keep it calm, wiping off dirt that may have gotten on the goat, or other things that might need to be done to keep the goat calm and presentable. However, do not place either of your hands on top of the goat’s back or neck when the judge is looking at it. You should stand so that the judge can see the goat (not you) - keep the goat between you and the judge. The only exception to this is when the judge crosses in front of the goat. At that moment, for a split second, you will be between the judge and the goat because the exhibitor always shows from the left side of the goat. This split second is impossible to avoid.

Showing note: While you are setting up the goat, keep an eye on the judge. You must try to keep the goat between you and the judge. Also, it is important to listen to the judge’s instructions.

The exhibitor should wear clean, neat, and appropriate clothing - long sleeved white shirt, white pants, as well as matching boots or hard shoes, and a belt. The boots or hard shoes and belt may either be brown, black, or white. The exhibitor should stand on the left side of the goat, because goats are exhibited in a clock-wise direction and this will keep the goat between the exhibitor and the judge.

Exhibitors must keep a distance of approximately 12 to 18 inches between themselves and their goats, and must keep the proper distance between their goat and the other goats in the show ring. Also, as the judge handles the goat, keep its head up while keeping the head, neck, and back in a straight line. When the judge handles the goat, move to the front of the goat and place your knee in its chest to keep it from moving. However, do not brace the goat.

As you practice each of these steps, you and your goat will become a team. Dairy goats may be exhibited for many years, you will have a long time to bond with and train the goat. When you feel confident and comfortable, ask someone to act as the judge. He or she should walk around the goat, handle it, and do anything else that you think might benefit you and/or the goat.

Showing tip: Attending showmanship clinics and workshops is a good way to learn more about recommendations and techniques. However, do not just attend - go home and practice what you have learned.

Training and practicing for showmanship involves preparing yourself as well as teaching the goat. You must know what to do and how to do it. You must also mentally prepare yourself. If you lack poise and self-confidence in the show ring, the goat will sense that something isn’t right and will become confused and uncomfortable. Consequently, the goat will not respond to your cues. This will lead to further frustration on your part and the result is a cycle of confusion and frustration between you and the goat.

The following dairy goat showmanship score card shows how the judge scores each activity and the amount of points available for each activity. It is important to know how the scoring is determined.

Showing hint: Remember that showing involves the appearance and attitude of the exhibitor, the appearance of the goat, and the showing or showmanship of the goat. Also, be on time for your class and be courteous - not only to the judge and ringmaster, but also to your fellow exhibitors.
American Dairy Goat Association Showmanship Score Card

Appearance of the Animal (40 Points)
- **Condition and Thriftiness (10 Points)** - The animal should show normal growth, neither too fat nor too thin.
- **Hair, Hooves, and Disbudding (10 Points)** - The hair should be clean and properly groomed. The hooves should be trimmed and shaped to enable the animal to walk and stand naturally. The disbudding should be neat and natural looking.
- **Clipping (10 Points)** - Clip the entire body if the weather permits, be sure to allow time for a neat coat of hair by show time. The tail and ears should also be neatly trimmed.
- **Cleanliness (10 Points)** - The goat should be shown as clean and free from stains as possible, with special attention given to the legs, feet, tail area, nose, and ears.

Appearance of the Exhibitor (10 Points)
The clothes and the exhibitor should be neat and clean, white clothing (especially the shirt) are the preferred and recommended show clothes. The shirt should be long-sleeved.

Showing of the Animal in the Ring (50 Points)
- **Leading the Goat (10 Points)** - Enter the show ring by leading the animal at a normal walk around the ring in a clockwise direction. Walk on the left side of the goat and hold the collar with your right hand. The exhibitor should walk as normally and inconspicuously as possible.
  - The goat should lead readily and respond quickly.
  - Lead equipment should consist of a properly fitted collar or small link chain, which is inconspicuous and yet of sufficient strength to maintain proper control of the goat.
  - As the judge studies the animal, the preferred method of leading is to walk alongside the neck of the goat on the side away from the judge.
  - Lead the goat slowly with its head held high enough for impressive style, attractive carriage, and a graceful walk.

  - Posing and Showing the Goat (15 Points) - Pose and show the goat so it is between the exhibitor and the judge as much as possible. Avoid exaggerated positions, such as crossing behind the goat.
    - Stand or kneel where both the judge and the animal can be observed.
    - Pose the goat with its front feet squarely beneath and its hind feet slightly spread. Whenever possible, face the animal upgrade with it's front feet on a slight incline. Neither crowd other exhibitors nor leave too much space when leading or setting up the animal (whether it is a head-to-tail position or a side-by-side position).
    - When the judge changes placings, lead the goat forward out of the line and down or up to the place directed. Then lead the goat back through the line and finally make a U-turn to get into the directed position.
    - To get an animal to move forward, use a slight pull on the collar. If the goat steps badly out of place, return it to position by leading it forward and making a circle back through your position in the line.
    - If the goat moves out of position when it is being observed by the judge, return it to the desired position as quickly and inconspicuously as possible.
    - Be natural: overshowering, undue fussing, and extra maneuvering are objectionable.

- **Showing to the Goat's Best Advantage (15 Points)** - Recognizing the conformation faults (weak points) of the animal you are showing and striving to help overcome them.

- **Poise, Alertness, and Courteous Attitude (10 Points)** - These are all desired in the show ring. Exhibitors should keep an eye on their animals and be aware of the position of the judge at all times, but should not stare at the judge. Persons or things outside the ring should not distract the attention of the exhibitor. Respond rapidly to requests from judges or officials. Be courteous and sportsmanlike at all times, respect the rights of other exhibitors. The best exhibitors will show their animal at all times (not themselves) and will continue exhibiting until the entire class has been placed, the judge has given his/ her reasons, and the class has been dismissed.

**Total possible points for showmanship** ................................................................. 100
Preparing for the show ring includes:
- Wear clean, neat, and appropriate clothing.
- Wear boots or hard shoes, not soft shoes.
- Carry a small brush or rag in your pocket.
- Arrive on time for your class.
- Know the goat’s tag number, weight, breed, and date of birth (kidding date).
- Know other relevant information such as the average daily gain, ideal body temperature, protein percentage of the feed, etc.
- Know what the judge looks like and/or is wearing.
- Know what the ringmaster looks like and/or is wearing.

Preparing the goat for the show ring includes:
- Wash the goat, either the night before the show or the morning of the show.
- On show day, feed the goat at least two hours before show time, but only feed approximately half of the usual amount. This keeps the goat attentive and alert.
- On show day, give about half the amount of water usually provided. This prevents the goat from having a very large girth and helps keep it active and alert.
- Groom and brush the goat at least twice before show time. This brings out the natural oils and removes dust and dirt, resulting in a cleaner hair coat.
- Before leaving the pen for the show ring, give the goat a drink of water and a final brushing.
- Be calm and gentle with the goat while on the way to the show ring and while in the show ring.

Working as a team in the show ring includes:
- Be aware of the location of both the judge and the ringmaster, as well as any instructions they may give.
- Be courteous to the judge, ringmaster, and other exhibitors. Be sure to say “yes sir” or “no sir,” “excuse me,” and “thank you.”
- Know the goat’s location at all times, especially in relation to yourself and to the judge.
- Keep the goat between you and the judge.
- Keep the proper distance (about a goat length) between your goat and the other goats.
- When leading the goat, walk slowly, with you walking by the left side of the goat’s neck.
- When setting-up the goat, do it quickly, confidently, and smoothly.
- If the judge touches your goat or if your goat rubs against another goat, use the brush or rag to re-smooth the hair and to wipe off any dirt.
- Maintain eye contact with the judge.
- Smile, relax, and enjoy what you are doing.
- Keep yourself cool, calm, and collected; this helps keeps the goat under control.
- Be humble when you win and gracious when you lose.
- Remember to thank the judge and congratulate the winners after the final placing.
Identify the dairy goat parts

1. ________________________________ 10. ________________________________
2. ________________________________ 11. ________________________________
3. ________________________________ 12. ________________________________
4. ________________________________ 13. ________________________________
5. ________________________________ 14. ________________________________
6. ________________________________ 15. ________________________________
7. ________________________________ 16. ________________________________
8. ________________________________ 17. ________________________________
9. ________________________________ 18. ________________________________
Notes