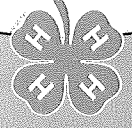


REVIEWED & RECOMMENDED
National 4-H Curriculum



Name

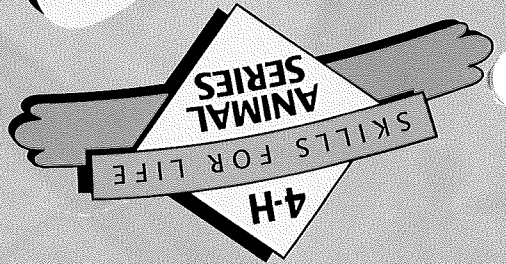
County

Meat Goat Activity Guide

Level 1



JUST BLOWING



Note to the Helper

Congratulations! A young person has asked you to be his/her meat goat project helper. As a helper you are in a great position to help youth grow and develop in positive ways as they learn about meat goats and about themselves. You can nurture and cultivate their interest in this project by guiding their planning, helping them carry out their projects and recognizing them for a job well done. You have a key role. Girls and boys can't do this project without you! You can help young people get the most out of this project through your enthusiasm and ability to ask thought-provoking questions. With your help, youth can set goals, identify resources, practice presentations and evaluate their own progress as they complete the Meat Goat Achievement Program.

Your Role

- Become familiar with the material in this activity guide and the *Helper's Guide*
- Support youth in their efforts to set goals and complete each Achievement Program
- Date and initial the activities on the Meat Goat Achievement Program as the youth completes them and the two of you discuss them
- Help them to get to know themselves, including their strengths and weaknesses
- Encourage the use of the experiential learning cycle described on this page

The Meat Goat "Skills for Life" Series

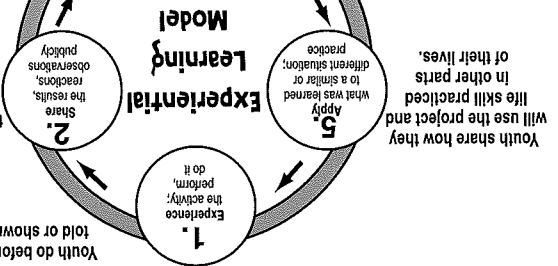


This guide, *Just Browsing*, is the first in the series of three for youth that also includes *Meat Goat 2 Growing With Meat Goats*, *Meat Goat 3 Meeting the Future* and the *Meat Goat Helper's Guide*. The three youth guides have been designed to be developmentally appropriate for grades 3-5, 6-8 and 9-12 respectively, but may be used by youth in any grade based on their project skills and expertise. All activities have several parts: A description of the skills to be practiced, discussion questions, suggestions for additional activities and other helpful information. The success indicator listed for each activity is an excellent way to evaluate the youth's success. Each of the guides also includes an Achievement Program to encourage youth to learn more about meat goats while developing important life skills. In the *Helper's Guide* you will find another evaluation piece titled "Evaluating the Impact." Use this before beginning each level and after the youth has completed each level.

Experiential Learning Model

This five-step model is used in each activity in this series.

Each activity is designed so the young person has an opportunity to learn by doing before being told or shown how. Your challenge is to stay in the background while the youth explores the activity and learns from the experience, even when it doesn't work the way it's expected to. You can help most effectively by listening as the young person considers the questions and draws conclusions. At times the activity may call for you to be a resource person for content or ideas. The fourth publication in this series, *Meat Goat Helper's Guide*, provides additional learn-by-doing activities that can be adapted to the family, the classroom, after-school child care, 4-H project groups, clubs or other groups. You'll also find helpful hints about characteristics of youth, life skill development, teaching experientially, meeting ideas, as well as answers to many of the activities in the youth guides.



Fetter, J.W., & Jones, J.E., "Reference Guide to Handbooks and Annals" © 1983 John Wiley & Sons, Inc. Reprinted with permission of John Wiley & Sons, Inc.

As you can see, the youth first attempt the activity on their own. After the youth do as much as they can and answer the questions, you then meet together and discuss: What did they do? What was important about what they did? How does what they did relate to their lives? And finally, how might they use the life and project skills practiced in the future? Your ability to ask additional thought-provoking questions and to clarify and expand the youth's ideas will add to the educational experience.

Good luck in your role as Project Helper and thanks for contributing to the positive development of our youth!

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Acknowledgments

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What's Inside?

Level 1
Just Browsing

For more on meat goats,
 look for these other guides
 in this set.

Level 2
Growing with Meat Goats

Chapter 1 Health and Disease
 Is Your Veterinarian on Speed Dial?
 Put Your Veterinarian on Speed Dial

Chapter 2 Selection
 Choosing Your Genes

Chapter 3 Feeds and Nutrition
 Does Your Goat Eat Oats and Does Eat Oats...
 And Sometimes Toxic Plants!
 Mares Eat Oats and Does Eat Oats...
 Through Thick & Thin

Chapter 4 Husbandry of Animals and Resources
 The Scoop on Poop
 Being Water Wise
 What You Don't Know
 Chapter 5 Reproduction
 And... ACTION!
 The Birds and the Bees
 No Kidding Around!
 1 Kid You Not

Chapter 6 Marketing
 and Products
 'Round the King
 and Back Again
 Holy Cabritoi!

Meat Goat Talk 2 (Glossary)
 Meat Goat Resources



Level 3
Meeting the Future

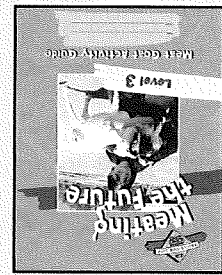
Chapter 1 Health and Disease
 As the Worm Turns
 The War on Genus

Chapter 2 Selection
 Behind the Scenes
 Talk the Talk
 Who's Your Daddy?

Chapter 3 Feeds and
 Nutrition
 It's a Balancing Act
 In Search of Greener
 Pastures

Chapter 4 Husbandry
 of Animals and Resources
 Is That Ethical?

Chapter 5 Reproduction
 Four for Dinner, Please
 Chapter 6 Marketing
 and Products
 Getting Market Savvy
 Meat, Milk, and More
 Meat Goat Talk 3 (Glossary)
 Meat Goat Resources



Helper's Guide

Youth Learning Characteristics
 Developing Life Skills
 Teaching and Learning
 Experimentally

Chapter 1 Planning
 and Organizing
 Looking Ahead
 For the Record

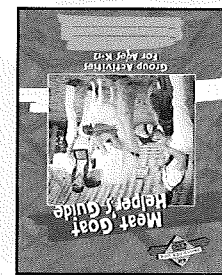
Chapter 2 Project Skills
 What's On Your Calendar?
 All Goats Are Not
 Created Equal
 Plate It Safe

Chapter 3 Games
 and Activities
 Learning Doesn't
 Have to Be "Booring!"
 Skillation Time!
 Going On the Road
 Let Me Tell You All About It!

Chapter 4 Time to Think
 Believe It or Not?
 Better Living with a Couple of Bucks and Lots of Doe

Chapter 5 Developing Character
 On the Path to a Career
 Helping Animals Fare Well
 Accepting the End

Glossary
 Meat Goat Meeting Ideas
 Answer Key: Meat Goat 1, 2 and 3
 Meat Goat Resources
 Evaluating the Impact



Note to Project Helper Inside Front Cover
 What's Inside? 1
 Having Fun As You Learn About Meat Goats 2
 Planning Guide 3
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Chapter 2 Marketing and Products

We Can't Have Quality Without "U"! 13
 Meat or Milk? 16
 There's No Business Like Show Business! 18
 Be a Sport 20

Chapter 3 Health and Disease

Ding Dong Bell, Is That Kid Feeling Well? 22

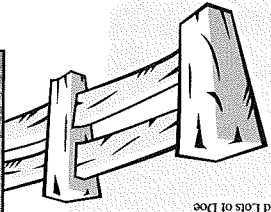
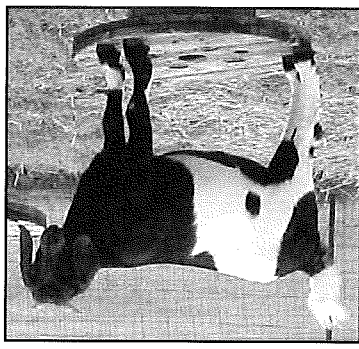
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I'm Stuffed 24
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 Learning the Ropes 32

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Let's Get Growing

Welcome to the first book in an exciting series designed to help you learn all about meat goats! Many fun and exciting activities have been planned for you. Whether you raise market or breeding animals, these activities will help you learn a lot!

If you don't have a goat yet, this book will help you decide if you want to purchase and care for one. Owning a goat is a big responsibility, and there is a lot to learn. By doing the activities in this book, you will learn how to select, feed, house, and care for a goat properly. If you already have a goat, don't worry—you will still learn a lot from these activities.

Each activity will ask you to do something, then share what you learned with your helper. You can work by yourself or as part of a group. Try to do the activity first, but ask your helper for help if you have any problems or questions.

While you are learning important goat project skills, you will also learn important skills you will use your whole life. Some of these skills are record keeping, responsibility, decision making, leadership and communication. Please share your new skills with younger and less experienced youth, too.

In *Just Browsing*, the first book in the four-part "Meat the Goat" series, you will learn how to...

- Get ready to go to a show
- Feed goats
- Identify healthy and sick animals
- Perform basic management skills
- Keep records properly
- Be a good sport
- Produce a healthy and safe product
- Select a project animal
- Identify different breeds
- Use your money wisely
- Tell the difference between milk-type and meat-type goats
- Design a good facility for your goat
- Identify parts of goats

Meat Goat 1 Project Guidelines

- Set your goals and record project highlights.
- Do a minimum of seven activities in Level 1 of the *Just Browsing* Achievement Program each year and complete the Program within three years.
- Participate in a minimum of three of the learning experiences listed on the Planning Guide each year.
- Practice and develop the life skills of making decisions, keeping records, learning marketable skills, self responsibility and others.
- Increase your meat goat knowledge and skills.

Achievement Program

While you are having fun doing the activities, you'll also be completing Level 1 of the *Just Browsing* Achievement Program. A level is included in each of the goat project activity guides. This program will help you set goals, record your successes and be recognized for your good work.

Your Project Helper

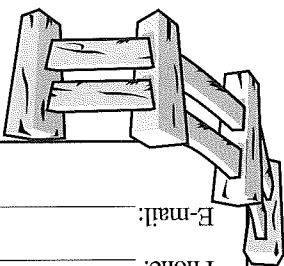
Your project helper is on your team supporting you and making learning more fun. This person may be a parent, goat breeder, project leader or advisor, a neighbor or an older friend who knows about goats. The choice is yours. As you do the activities, you'll discuss with your helper what you did by answering the questions in the "Ruminations" part of each activity. Sometimes your helper will work with you to identify resources, including people, Internet sites, organizations, events, magazines and books necessary to complete an activity. Once you have successfully completed each activity, your helper will date and initial your Achievement Program.

Write the name, phone number and E-mail address of your project helper here:

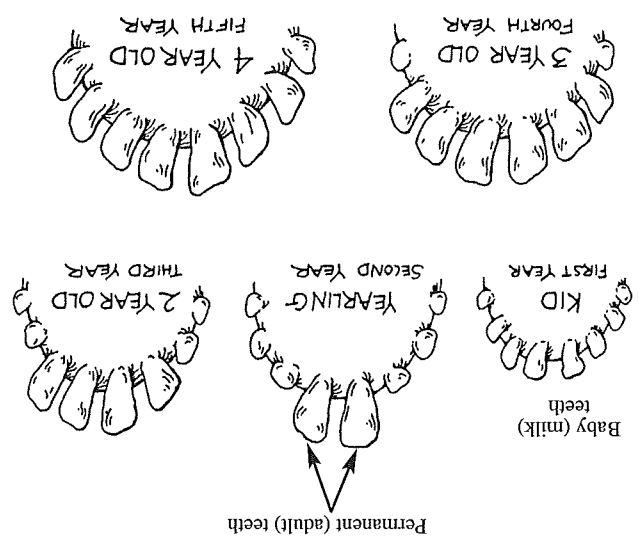
My Project Helper: _____

Phone: _____

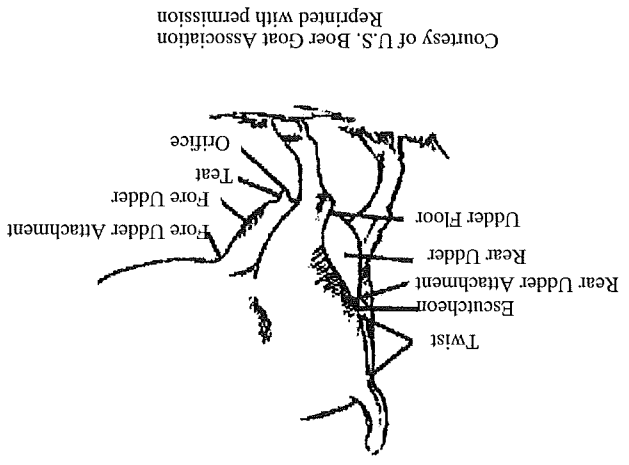
E-mail: _____



From *Raising Goats for Milk and Meat* by Rosalee Simm. Illustrations by Barbara Carter. Reprinted with permission.

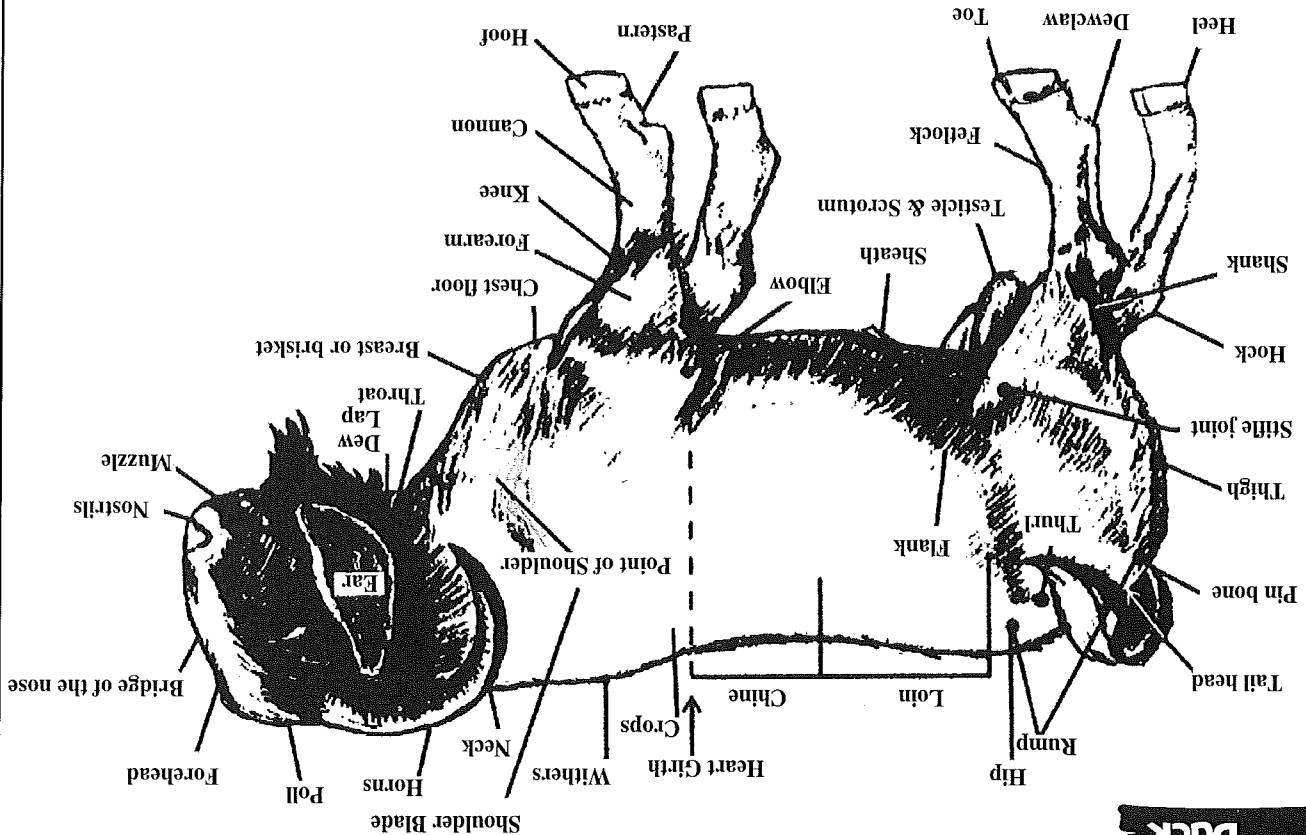


How to tell a goat's age by looking at its teeth.



Courtesy of U.S. Boer Goat Association. Reprinted with permission.

Doe



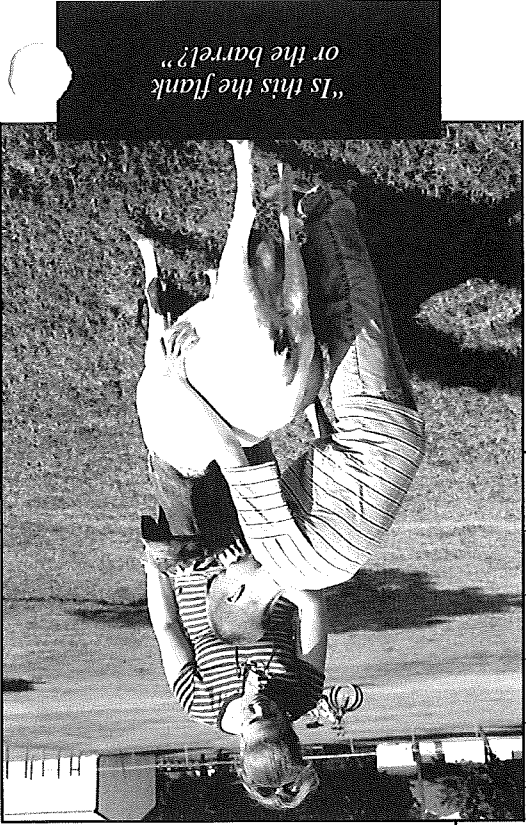
Buck

Parts of the Meat Goat

Hint: Laminating your poster and the names of parts will help them last longer.

Now, by yourself or with a group, create a large (at least 18" x 24") chart or poster featuring a meat goat's body. You can draw one, trace one, enlarge one or use a photograph. You could also obtain a goat chart from your 4-H office; if you do, you will have to cover up the names of the parts that are printed on the chart. Using the goat part list on page 7, make a label for each goat part name needed. Attach a Velcro® sticker to the back of each name. On the chart, draw lines that point to each part you want to name. Put another Velcro® sticker at the end of each line (away from the animal)—this is where you will attach the name of each part as you learn it.

Goat Parts I Know:



"Is this the flank or the barrel?"

Start Capering

Begin by listing the names of all the parts you know already.

You need to know the names of parts of your goat when you talk to your vet, breeders, other youth and judges. It's fun to learn where the parts are! In this activity, you'll create a learning tool that you can use over and over to make learning goat parts enjoyable.

Amanda (on the phone with her vet):
"My goat has a bad cut!"
Vet: "Where?"
Amanda: "On that part of the leg that sticks out funny. You know..."
Vet: "WHERE?!"



Selection

CHAPTER 1

Name That Part!

Project skill: Identifying goat parts
Life skill: Learning to learn
What youth will do: Create a large, interactive poster they can use to learn goat parts
Success indicator: Knows the names of all meat goat parts

From Toe to Tail

Meat of the Matter

Your goat chart should definitely include the parts listed below and those shown on the meat goat on page 5. There are a lot of terms here; don't feel bad if it takes you several years to learn all of them! Check them off as you learn each part.

- | | | | |
|--|--|---|---|
| <input type="checkbox"/> Neck | <input type="checkbox"/> Point of shoulder | <input type="checkbox"/> Ear | <input type="checkbox"/> Rump |
| <input type="checkbox"/> Heart girth | <input type="checkbox"/> Poll or crown | <input type="checkbox"/> Back | <input type="checkbox"/> Twist |
| <input type="checkbox"/> Brisket or breast | <input type="checkbox"/> Rib | <input type="checkbox"/> Loin | <input type="checkbox"/> Chine |
| <input type="checkbox"/> Chest floor | <input type="checkbox"/> Crop | <input type="checkbox"/> Withers | <input type="checkbox"/> Shoulder blade |
| <input type="checkbox"/> Barrel | <input type="checkbox"/> Forehead | <input type="checkbox"/> Point of elbow | <input type="checkbox"/> Bridge of nose |
| <input type="checkbox"/> Knee | <input type="checkbox"/> Nostril | <input type="checkbox"/> Toe | <input type="checkbox"/> Eye |
| <input type="checkbox"/> Sole | <input type="checkbox"/> Muzzle | <input type="checkbox"/> Heel | <input type="checkbox"/> Jaw |
| <input type="checkbox"/> Dewlap | <input type="checkbox"/> Pastern | <input type="checkbox"/> Fetlock | <input type="checkbox"/> Thigh |
| <input type="checkbox"/> Hoof | <input type="checkbox"/> Pin bone | <input type="checkbox"/> Tail head | <input type="checkbox"/> Tail |
| <input type="checkbox"/> Throat | <input type="checkbox"/> Tail | <input type="checkbox"/> Thurl | <input type="checkbox"/> Hip |
| <input type="checkbox"/> Dewclaw | <input type="checkbox"/> Testicle | <input type="checkbox"/> Prepuce | <input type="checkbox"/> Penis |
| <input type="checkbox"/> Muzzle | <input type="checkbox"/> Scrotum | <input type="checkbox"/> Sheath | |
| <input type="checkbox"/> Heel | | | |
| <input type="checkbox"/> Jaw | | | |
| <input type="checkbox"/> Point of elbow | | | |
| <input type="checkbox"/> Bridge of nose | | | |
| <input type="checkbox"/> Knee | | | |
| <input type="checkbox"/> Nostril | | | |
| <input type="checkbox"/> Toe | | | |
| <input type="checkbox"/> Eye | | | |
| <input type="checkbox"/> Sole | | | |
| <input type="checkbox"/> Muzzle | | | |
| <input type="checkbox"/> Heel | | | |
| <input type="checkbox"/> Jaw | | | |
| <input type="checkbox"/> Dewlap | | | |
| <input type="checkbox"/> Pastern | | | |
| <input type="checkbox"/> Fetlock | | | |
| <input type="checkbox"/> Thigh | | | |
| <input type="checkbox"/> Pin bone | | | |
| <input type="checkbox"/> Tail head | | | |
| <input type="checkbox"/> Tail | | | |
| <input type="checkbox"/> Thurl | | | |
| <input type="checkbox"/> Hip | | | |

BUCKS:

- | | | | | | | | | | | | | |
|------------------------------------|--------------------------------|-------------------------------|----------------------------------|---|--|-------------------------------------|---|--|---|--------------------------------|--|-------------------------------------|
| <input type="checkbox"/> Milk vein | <input type="checkbox"/> Udder | <input type="checkbox"/> Teat | <input type="checkbox"/> Orifice | <input type="checkbox"/> Floor of udder | <input type="checkbox"/> Fore udder attachment | <input type="checkbox"/> Fore udder | <input type="checkbox"/> Medial suspensory ligament | <input type="checkbox"/> Rear udder attachment | <input type="checkbox"/> Escutcheon ("es-KUTCH-on") | <input type="checkbox"/> Vulva | <input type="checkbox"/> Side udder attachment | <input type="checkbox"/> Rear udder |
|------------------------------------|--------------------------------|-------------------------------|----------------------------------|---|--|-------------------------------------|---|--|---|--------------------------------|--|-------------------------------------|

DOES:

- | | | | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------------|-------------------------------|----------------------------------|---|---------------------------------|-------------------------------|--------------------------------------|---------------------------------|----------------------------------|-------------------------------|--|---------------------------------|--------------------------------|--------------------------------|--|------------------------------------|-------------------------------|---------------------------------------|---------------------------------|
| <input type="checkbox"/> Rump | <input type="checkbox"/> Twist | <input type="checkbox"/> Back | <input type="checkbox"/> Loin | <input type="checkbox"/> Chine | <input type="checkbox"/> Rib | <input type="checkbox"/> Crop | <input type="checkbox"/> Withers | <input type="checkbox"/> Shoulder blade | <input type="checkbox"/> Stifle | <input type="checkbox"/> Horn | <input type="checkbox"/> Cannon bone | <input type="checkbox"/> Wattle | <input type="checkbox"/> Forearm | <input type="checkbox"/> Hook | <input type="checkbox"/> Coronary band | <input type="checkbox"/> Saddle | <input type="checkbox"/> Flank | <input type="checkbox"/> Shank | <input type="checkbox"/> Pelvic girdle | <input type="checkbox"/> Ear canal | <input type="checkbox"/> Anus | <input type="checkbox"/> Scent glands | <input type="checkbox"/> Eyelid |
|-------------------------------|--------------------------------|-------------------------------|-------------------------------|--------------------------------|------------------------------|-------------------------------|----------------------------------|---|---------------------------------|-------------------------------|--------------------------------------|---------------------------------|----------------------------------|-------------------------------|--|---------------------------------|--------------------------------|--------------------------------|--|------------------------------------|-------------------------------|---------------------------------------|---------------------------------|

Udder Ideas

1. Sponsor a skillathon station where you help others learn the names of meat goat parts using your new meat goat parts poster.

After doing these activities, talk about the results with your helper.

Ruminations

Discuss the answers to these questions with your helper.

Chew Your Cud (Share)

- How did you make your poster?
- What parts did you know already?

Gain Ground (Process)

- How did making the chart and attaching each part name help you learn their names?
- Why is it important to know the names of parts?

Forage for More (Generalize)

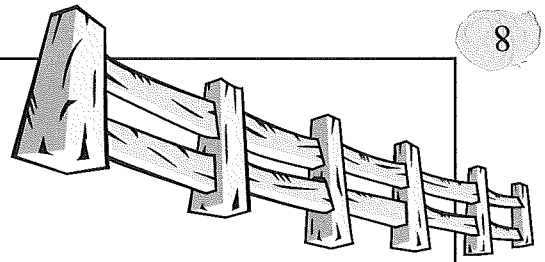
- How could you use this same learning method to help you learn about something else?
- In what other areas of your goat project is there a lot of new information to learn?

Wattle You Do Next? (Apply)

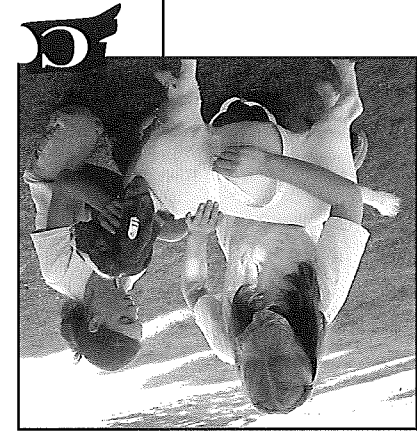
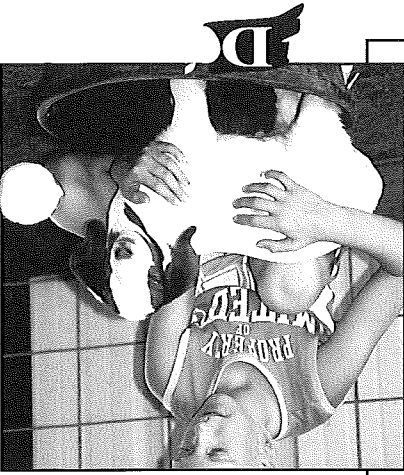
- How can you help others learn the names of goat parts?
- What other ways could you learn about meat goat parts?



- You can use a "weight tape" to measure an animal's heart girth and estimate its weight.
- Another term for "hip" is "hook."

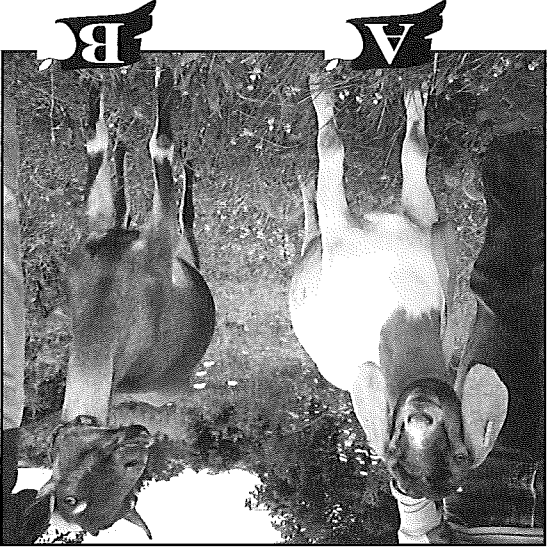


It's OK if your puzzle goat looks a bit odd — that's part of the fun of this activity!



Which market goat is a better choice for a sale that is three months away, C or D? Why?

Which animal would make a better market project animal, A or B? Why?



- Dam
- Sire
- Withdrawal date
- Purebred
- Wean
- Siblings
- Conformation
- Breed Association
- Standard
- Market goat
- Milk teeth

How do you know what to look for when you select your project animal? This activity will cover the basic guidelines for selecting a goat: what breeds make the best market animals, age and size of animals required, and other factors. You will improve your ability to make good decisions, too!

Start Capering

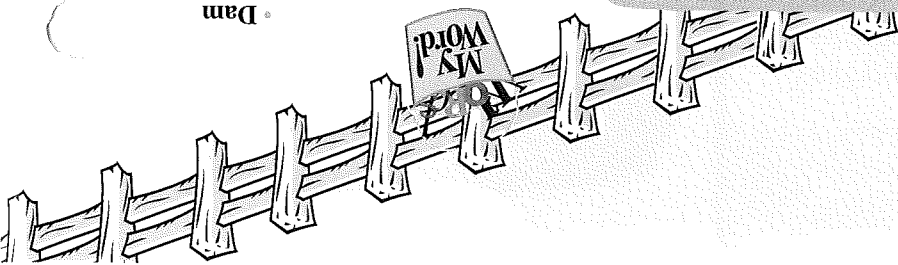
Create a paper jigsaw puzzle of a quality market goat. Each piece of the puzzle will represent an important part of a meat goat that should be looked at carefully before the animal is chosen as a project animal.

Hint: It will be easiest to draw or trace the entire animal first, then divide it into pieces to make the puzzle.

Tape the assembled puzzle to the page or, if it is too large, attach a photo of the assembled puzzle.

Choosing Wisely

- Project skill:** Selecting quality project animals
- Life skill:** Decision making
- What youth will do:** Determine items to consider when selecting a good project animal
- Success indicator:** Selects a healthy goat that meets the criteria for its intended use



Selecting Your Project Animal

Meat of the Matter

What things do you need to know before you select your project animal? Here are some suggestions:

1. What is the date of the future market sale?

2. Is there a minimum, maximum or preferred weight at sale time?

3. Will there be a penalty for being under- or overweight?

4. What selling options are available for under- or overweight animals?

5. Is there an age limit for market animals at the sale?

6. What do the animal's *dam* and *sire* look like?

7. What was the average daily gain of the parents?

8. The animal's *siblings*?

9. How well have the animal's siblings done in market stock shows?

10. What is the animal's age?

11. What is the animal's health, worming and vaccination history?

12. Have any animals on the farm been sick recently?

13. Have any medications been administered and, if so, has the *withdrawal date* gone by?

14. Is the animal's gender a consideration?

15. Does the animal still have its *milk teeth*, and will it still have them at market time?

16. Does the animal have to be a *purebred*?

17. Is the animal *weaned*? If so, when?

18. Is the animal dehorned? Does it need to be dehorned for the show or sale?

19. When selecting a project animal, look for one that is healthy, bright, alert and active. It should have a wide and long loin, broad chest, straight back and gradually-sloping rump. The hindquarters should be well muscled. Look for straight legs, large bones and sturdy structure. The animal should not be narrow—it should stand wide on all four legs. (Don't worry, there will be more on selection in a later activity!)

Udder Ideas

1. Create a photo gallery of animals with good and poor conformation.

2. Ask your helper or an older youth to help you create a table to predict market dates for animals at various starting weights, given a final market weight of 80# and an average daily gain of 0.5#.

3. Make a wooden version of your goat puzzle.

Ruminations

Chew Your Cud (Share)

• How did you make your puzzle?

Gain Ground (Process)

• Why is it important to learn how to select a good quality project animal?

• Why do *breed associations* establish a *standard* for ideal animals of a breed?

Forage for More (Generalize)

• What other activities in your life follow a specific set of standards, goals or rules?

Wait! You Do Next? (Apply)

• How will what you learned help you when it is time to select a market animal?

• How will what you learned help you select breeding stock?



"Conformation" means how well an animal's body conforms to that of a perfect animal of that breed and type. There is a conformation standard for each breed and type of animal. The breed association determines this standard.



Goat meat is known as chevon or cabrito. A group of goats is known as a herd, a flock, or a trip.

Disclaimer:
 Consider why you want a goat and what you expect before selecting one. Do you want a meat goat, or one that can also provide milk and/or fiber?

- Africaner
- Nervous Goat
- Kiko
- Pygmy
- Boer
- Myotonic
- Scare Goat
- Brush
- Spanish
- Fainting Goat
- Nubian
- Stiff Leg
- Fall Down Goat
- Wooden Leg

Complete the Word Find puzzle by finding and circling each breed name in the box of scrambled letters.

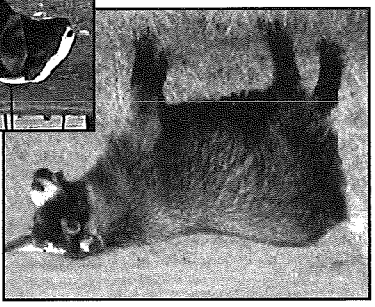
Start Capering

Word Find

J	S	T	I	F	F	L	E	G	A	C	M	Z
N	L	W	T	N	A	I	E	V	E	D	A	T
E	W	F	N	Y	I	E	S	U	C	D	T	P
R	D	S	P	A	N	I	S	H	M	E	K	C
V	S	M	F	C	T	N	E	M	A	I	X	A
O	V	A	F	R	I	C	A	N	D	E	R	I
U	O	J	A	C	N	G	A	F	M	Y	A	L
S	C	A	R	E	G	O	A	T	V	S	B	G
G	Z	Y	K	J	G	E	Z	U	P	Q	O	I
O	A	F	O	W	O	D	E	N	L	E	G	B
A	L	U	P	K	A	C	J	E	P	W	R	B
T	G	M	Y	O	T	O	N	I	C	P	A	E
Z	A	V	G	W	V	Y	C	U	S	D	E	S
C	I	W	M	N	K	Z	B	R	U	S	H	E
K	Q	E	Y	P	I	H	I	X	I	R	I	Y
B	I	H	C	V	K	W	A	E	Z	I	D	T
F	A	L	T	D	O	W	N	G	O	A	T	N



Photo courtesy Phil Moss, the Tyny Goat Ranch. Used with permission.

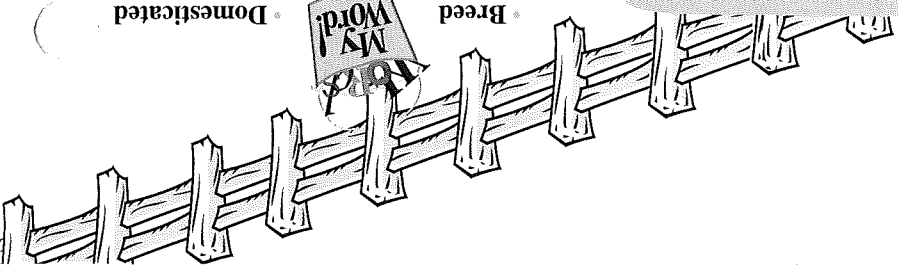


Dogs and goats have been domesticated longer than all other domesticated animals. Today there are over 200 breeds of goats. Through evolution, selection practices and genetics, the various breeds of goats have developed similar characteristics such as color, color pattern, disposition, size, and purpose (meat, milk, fiber, or a combination of these traits). This activity will introduce you to some of these breeds and encourage you to learn more.

Kikos and Pygmies and Boers—Oh My!

- Project skill:** Identifying breeds of meat goats
- Life skill:** Decision making
- What youth will do:** Complete the meat goat breeds word find
- Success indicator:** Selects the proper breed of goat for a given situation

- Bred
- Cabrito
- Chevon
- Crossbred
- Doe
- Domesticated
- Flock
- Kid
- Herd
- Loin eye muscle
- Trip



Ruminations

Chew Your Cud (Share)

- What was the most difficult part of the puzzle?
- What breeds did you learn about?

Gain Ground (Process)

- How does learning about the breeds of goats make it easier to talk about them?

Forage for More (Generalize)

- Using your new knowledge of how to tell the differences in goats, how can this information help you tell the differences in other kinds of animals?

Wattle You Do Next? (Apply)

- How will knowing about breeds of goats help you decide which one to buy?
- How can you decide among different choices the next time you are choosing something you want?

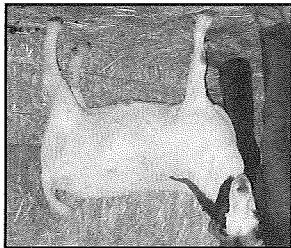
Acknowledgement: The 4-H Meat Goat Project: An Introduction, Steve Schater, University of Wyoming

Meat of the Matter

Which Breed Do You Need?

Boer

This breed is also known as Africaner or South African Common Goat. The Boer originated in South Africa as the result of uncontrolled cross-breeding between the native goat and the Angora, European, and Indian goats that were brought by



explorers. Selection started in the 1820s, and a breed registry was started in 1959. The name comes from the Dutch word "Boer," which means farm or farmer, and it was probably used to distinguish native goats from those that were imported. The Boer is a meat goat with several adaptations to the region in which it was developed. It is a horned breed with top ears. It has a white body, tail, and legs with a reddish brown to black head and neck. The Boer is a very large breed. A mature buck weighs 250 to 350 pounds and a mature doe weighs 200 to 225 pounds. Performance records usually show a kidding rate of 200%, a weaning rate of 160%, and an average daily gain of 0.3 to 0.4 pounds, with exceptional individuals having an average daily gain of 0.5 pounds.

Spanish

When Spanish explorers came to America, they brought goats as a meat source. It is believed that some of these goats escaped and some were released as other meat sources were discovered. This means that



goats were in Oklahoma and Texas as early as the 1540s. Although they do not have a specific breed ancestry, the Spanish goat developed through natural selection and became known as Spanish Goats or Brush Goats. They have been bred and raised in Texas since the 1700s.

Spanish goats are very hardy and fairly disease resistant. There is no consistent color pattern within the breed. They are a small to medium-framed breed. A mature buck weighs 120 to 220 pounds and a mature doe weighs only 65 to 100 pounds. The average daily gain is 0.2 to 0.3 pounds and the kidding rate is 150% to 170%. Males have large twisting horns that grow outward.



- The Spanish goat has been the mainstay of the Southwestern American meat goat industry for many decades.
- The first Boer goats were released for export to the U.S. from South Africa in 1993.

This breed is known by several different names: Wooden Leg, Stiff Leg, Fainting Goat, Nervous Goat, Scare Goat, Fall Down Goat and Tennessee Fainting Goat. They are known as fainting goats because they have an inherited muscle condition (myotonia) that causes temporary muscle stiffness of the hind legs and neck when they are startled. This stiffness causes them to fall over and lie very still for 10 to 20 seconds.

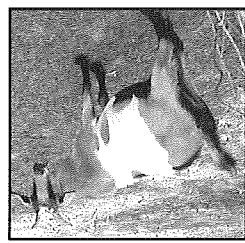


Photo courtesy R Fainting Farm, © 2002 Goat World.com. Used with permission.

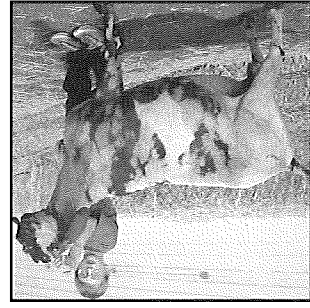
Myotonic
This breed is known by several different names: Wooden Leg, Stiff Leg, Fainting Goat, Nervous Goat, Scare Goat, Fall Down Goat and Tennessee Fainting Goat. They are known as fainting goats because they have an inherited muscle condition (myotonia) that causes temporary muscle stiffness of the hind legs and neck when they are startled. This stiffness causes them to fall over and lie very still for 10 to 20 seconds.

Myotonics that have been selected for meat production are heavy-rumped and deep-chested animals. They are excellent crossbreeding stock for Boer goats. The resulting kids possess superior meat quality. The *loin eye muscle* tends to be bigger around, but also somewhat shorter. The myotonic gene is recessive, therefore "fainting" is not always expressed in *crossbred kids*.

The breed is usually black and white, but multiple colors are not uncommon. Compared to other goats, they are not good climbers or jumpers, making them somewhat easier to keep. They are a small to medium-sized breed, with a mature buck weighing 100 to 175 pounds and a mature doe weighing 75 to 125 pounds. Production traits include ease of kidding, a kidding rate of 190%, relatively good milk production, and an average daily gain of 0.25 to 0.35 pounds.

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 using 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 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 large breed, with a mature buck weighing 175 to 300 pounds and a mature doe weighing 135 to 200 pounds. Production traits include a kidding rate of 160% to 190% and an average daily gain of 0.16 to 0.26 pounds.

Udder Ideas

1. Talk to local goat producers about their goats. Ask why they decided to raise that particular breed.
2. Attend a goat show and talk to the participants about their goats. Ask what they like and do not like about their breed.
3. Make a scrapbook and/or storybook about breeds of goats. List the characteristics of each. Tell what you like and do not like about each breed.

4. Learn about the Santa Theresa meat goat breed in California.

The San Clemente Island Goat is a descendent of the Spanish goats that were planted on the Pacific Coast islands to supply a meat source for ships' crews. These goats did very well on the island until around the turn of the 20th century when they were hunted to near extinction. There are currently about 200 purebred animals left. All the goats are marked the same, with variations in the base color from tan to amber. The horn set should start to spread within a couple of inches of the base and keep spreading and trailing outward giving a light, airy look. The horns should twist about a half-to three-quarter turn to the tip, depending on the animal's age.

San Clemente



Photo courtesy Earth Spirit Preserve.

Kikos are very similar in size and meat quality to the Spanish breed. They are a large breed. A mature buck weighs 175 to 225 pounds and a mature doe weighs 100 to 150 pounds. Most common colors are white or cream but all colors can be seen.

Some sources indicate that this breed originated in New Zealand, but other sources state that it originated in Australia. However, all sources relate that the breed was developed by crossing native flocks with imported dairy breeds. They were selected and developed based on twinning ability, growth rate, and survivability under extensive range conditions.

Kiko

Since they are very small, they are easier to handle and therefore they make excellent animals for smaller children.

Pygmy goats are smaller than any other recognized breed of goat in the United States. A full-grown buck stands about 20 to 22" tall and is usually 60 to 80 pounds, and is gray-blue to black in color. On the average, a doe will produce about one quart of milk per day.

Pygmy

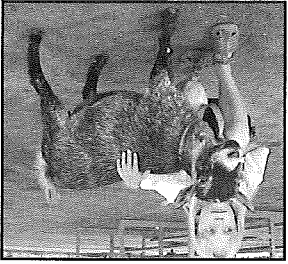


Photo courtesy An Paschel, Goats Unlimited.

- Project skill: Producing a safe product
- Life skill: Keeping records
- What youth will do: Record how your meat goat project was cared for by both you and the breeder
- Success indicator: Keeps good records to ensure production of a safe, wholesome product

We Can't Have Quality Without "U"!

The 4-H meat goat project can be a fun and financially rewarding experience. However, it also requires you to be responsible and keep detailed records. Think of yourself as being in the food production business, not just the livestock production business. Food safety is EVERYONE'S business! Everyone involved in the food chain, including livestock producers, people who process animals, retailers, and consumers all need to do their part to ensure safe food. In this activity, you will collect information from the first owner of your market project animal and record what you did as a food producer to help raise a high quality, wholesome product.



Your goal: a delicious, nutritious, safe product for the consumer.

- Intramuscular
- Subcutaneous
- Biohazard
- Quality assurance
- Weaning weight
- Scrapie
- Residue

Start Capering

When you select your meat goat project animal, record information about its breeder on your health record form. This information will help you get your goat project off to a great start. Continue to record the activities that you do as a youth producer to ensure that your goat stays healthy and is a wholesome part of the food chain.

What Do I Need to Know About My Goat?

Record this information when you select your goat.

Name of breeder _____

Breeder's address _____

Phone number _____

E-mail _____

Kid's ID number _____

Weaning weight _____

Current weight _____

Purchase date _____

Date of birth _____

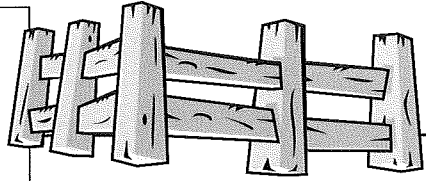
Date weaned _____

Type of birth _____

Sire _____

Dam _____

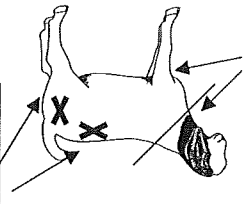
Attach photo of your animal here: _____



Acknowledgments: Figure used with permission from Sarah Smith, Jean Smith, Susan Kerr and Jan Busboom, Washington State University.

Give subcutaneous (SQ) injections under loose skin of neck or front flank using tenting method. Give intramuscular injections in the neck. If label indicates a choice, use SQ.

NEVER inject into the leg or loin area.



Note any changes in feed, environmental conditions, etc. that may affect your goat's health.

Treatment date	Reason for treatment	Name of medication	Dosage and how given (subcutaneous, oral, intramuscular)	Withdrawal date

Record here all medications, treatments, etc. given to your goat after you purchased it.

Keeping My Animal Healthy Youth Producer's Health Record

<p>What and how much is the goat currently being fed? _____</p> <p>What shelter does the breeder recommend for your project animal? _____</p> <p>What else do you need to know in order to keep your goat healthy? _____</p>	<p>What does the breeder recommend you feed your goat in the future? _____</p> <p>What shelter does the breeder recommend for your project animal? _____</p>
--	--

Treatment date	Reason for treatment	Name of medication	Withdrawal date

Note all medications and treatments given by the breeder (vaccinations, dewormers, medicated feeds, Vitamin E/Selenium, etc.).

Selecting a Healthy Animal Breeder's Health Record

Ruminations

Chew Your Cud (Share)

- What new terms did you learn?
- What part of the health record form was most difficult for you to fill out?

Gain Ground (Process)

- How would you describe the health of your goat at the beginning of your project? At the end of your project?
- Why is it important to always follow all directions when administering medication to your goat?

Forage for More (Generalize)

- Why is it important to keep good records when working on an important project?
- Why should you be concerned about the overall health of the earth's food chain?

Wattle You Do Next? (Apply)

- What changes can you make in the way that you raise your animal so that it will be healthier?
- How can you reduce stress in your life?



Additional Resources: For information about the National Scrapie Eradication Program, call 1-866-USDA-7A9

Meat of the Matter

Practicing Quality Assurance

Quality assurance refers to all the steps that a livestock producer takes to ensure a safe, wholesome product for consumers. Studies show that the U.S. has the safest food supply in the world; understandably, consumers continue to demand products that are free from chemical residues, and assurance that animals are raised in a humane manner. A well designed quality assurance program includes the following points:

1. A permanent identification system that can be used to track an animal throughout the production and slaughtering process. All intact goats (does and bucks) must also be properly identified for the Federal Scrapie Eradication Program if they are to be shown at a fair, show, or sale.
2. A treatment record for each animal. This record should include: treatment date, reason for treatment, type of medication administered, administration route (oral, SQ, IM), and withdrawal period.
3. Strict following of all medication label directions. Only a licensed veterinarian can prescribe prescription drugs. It is very important for livestock producers to develop strong relationships with their veterinarians.
4. Proper disposal of used needles, scalpels, sharps, and infectious waste. Contact your local veterinarian for more information about *biohazard* disposal in your state.
5. Avoidance of performance enhancing drugs. It is illegal, unethical, and wrong to use performance enhancing drugs or other substances to improve the appearance of your animal.
6. A plan for proper care, adequate feed and water, and shelter from the weather. Reduce and eliminate all factors that increase the level of stress in your meat goat project animal.



Consumers need to practice quality assurance, too:

- Freeze or keep uncooked meat refrigerated below 40°F
- Keep thawed, uncooked meat no longer than two days in a refrigerator
- Cook ground meat to an internal temperature of 160°F
- Cook steaks and roasts to an internal temperature of 145°F
- Wash hands, utensils, and surfaces before and after preparing food

Udder Ideas

1. Visit several of your friend's livestock raising facilities and observe how they handle and raise their animals. Compare notes with other 4-H members raising goat projects in your area.
2. Find information about quality assurance for sheep, beef and pork producers on the Internet.
3. Talk to a vet about withdrawal times, extra-label drug use, outlabeled medications, and residues.

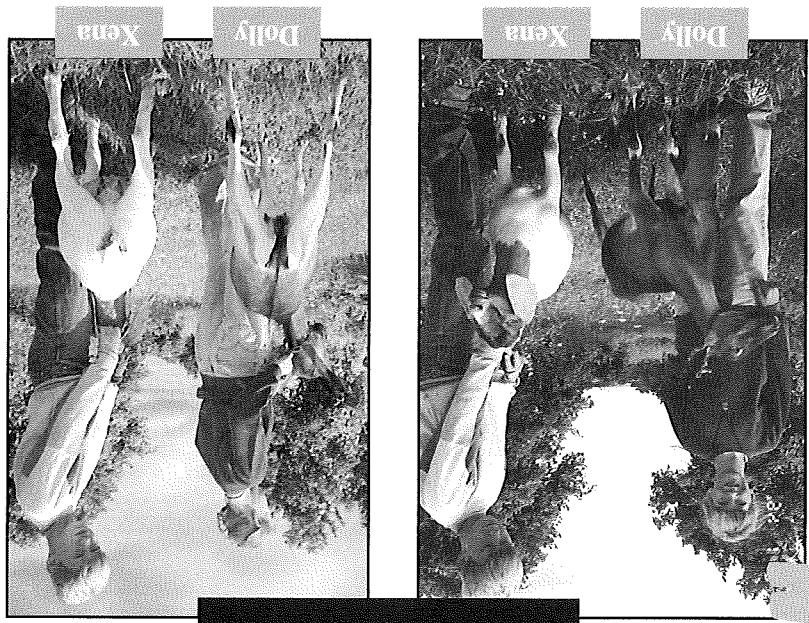
- Project skill: Discovering how meat goats and dairy goats differ
- Life skill: Decision making
- What youth will do: Compare photos of meat and dairy goats and observe differences
- Success indicator: Identifies differences in conformation and relates them to function

Meat or Milk?

The cattle that we use for meat look a lot different than the cattle we use for milk. The same is true for goats! In this activity you'll learn some of the ways the body of a good dairy goat. This knowledge will help when it is time to select your project animal.

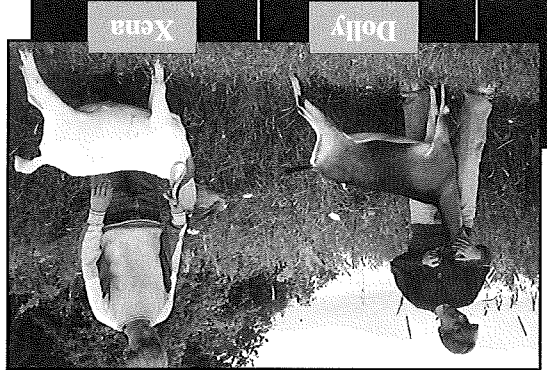
Start Capering

Here are some photos of two goat kids, Dolly on the left and Xena on the right. Can you match each of the oral reasons listed with the goat it is describing?



Which is the better meat animal?

- Dairy character
- Escutcheon
- Observe
- Type
- Twist



Oral Reasons

Make a check mark in the box below the name of the goat that the description fits best.

A. This goat carries more muscle than the other goat		
B. This goat has a longer, leaner neck blending more smoothly into her shoulder		
C. This goat is wider in the chest and thicker in her forearms		
D. This goat has sharper withers		
E. This goat has a leaner rear leg and a higher, wider <i>escutcheon</i>		
F. This goat has a deeper <i>twist</i>		
G. This goat shows a longer, thicker loin		
H. This goat is leaner over her pins and hips, exhibiting more dairy character		

Get the Right Goat for the Job

When you start looking for a meat goat project animal, you will notice that there are different breeds and body types to choose from. Most goats have either meat or dairy character. You need to be able to tell if the goat you select for your project has good meat traits or good dairy character.

A goat with good dairy character will have little extra flesh and muscle on it. It will look like it uses the food it eats to make milk. Its withers will appear sharp. Its hooks and pins will be bony and prominent. A goat that is good for meat is different. It puts its food into building muscle. It has more muscle running along its backbone. This makes its withers, loin, and rump look full and round. Its forearms and hindquarters look very thick and powerful.

Have you ever watched a goat show? The judge looks at each goat closely to observe its conformation. Conformation is the body's structure. The judge observes how a goat's body is put together and how much muscle there is. The judge then compares goats out loud to tell the audience the reasons why each goat received its class placing. These reasons are called oral reasons. Oral reasons describe how the conformation differs between each goat and help us understand a judge's decisions.



Muscles not only help goats to run and jump, they help their hearts to beat and eyes to focus and skin to twitch to get the flies off. Muscles make a goat's hair puff out when the goat is cold. Muscles help a mother goat to push so their kids can be born. Muscles keep milk from leaking out of a goat's udder and when other muscles contract, they help with milk let down.

Udder Ideas

1. Use what you learned looking at photos to compare two real goats.
2. Use oral reasons to point out differences between similar objects to a friend or family member.
3. Conduct a judging clinic with oral reasons.
4. Create a notebook of photos to help you learn about differences in type.

Ruminations

Chew Your Cud (Share)

- How did you decide what type (meat or milk) Dolly and Xena were?

Gain Ground (Process)

- How can looking at a goat's body help you determine the use for which it is best suited?
- Which goat would be better for meat? Why?

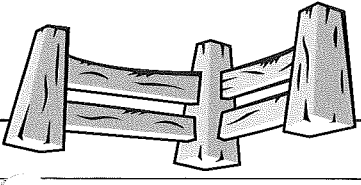
Forage for More (Generalize)

- Give an example of a time when you figured out how something was used by looking at its shape.
- How can learning to see differences help you make a decision?

Wattle You Do Next? (Apply)

- How can you use your observation, comparing and decision-making skills to help choose a new breakfast cereal or pick out new school clothes?

Remember to put your name on everything that belongs to you!

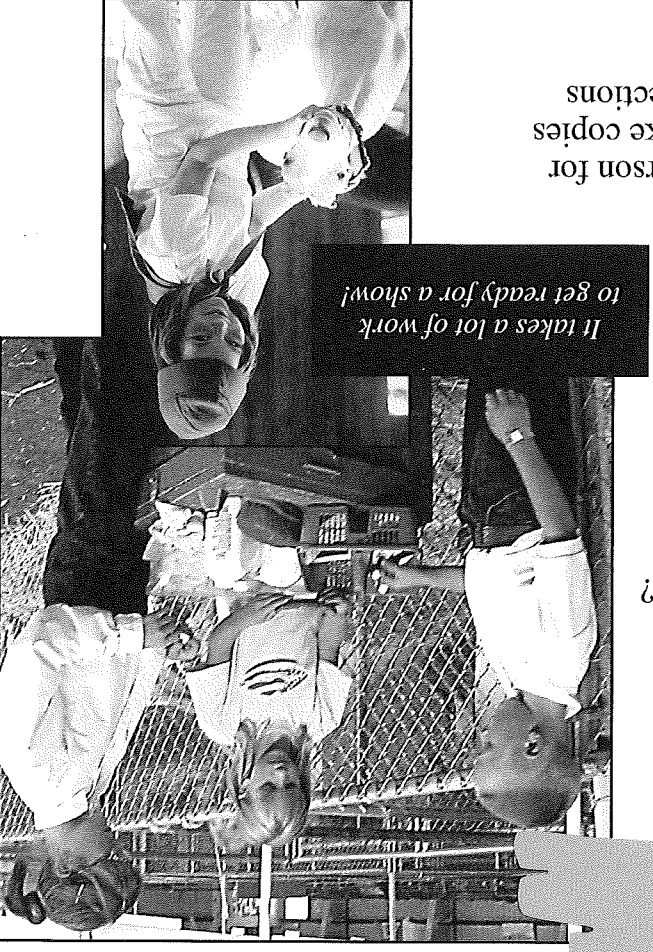


Things to Do	Things to Take	
		1.
		2.
		3.
		4.
		5.
		6.
		7.
		8.
		9.
		10.

Once show day arrives, you will be so excited that it will be hard to think straight! That is one of the reasons it will be important to make sure you are completely ready for a show well ahead of time. What will you need to take? Is your equipment in good shape? How can you keep from forgetting something? This activity will help you get ready for the big day ahead!

Start Capering

Either alone or in a group, brainstorm about the things you will need to do to get ready for a show. Also develop a checklist of things to take to a show. Once your list is complete, show it to an experienced showperson for his/her input. When you finally have a finished list, make copies and use it each time you prepare for a show. Make corrections and additions as needed over time.

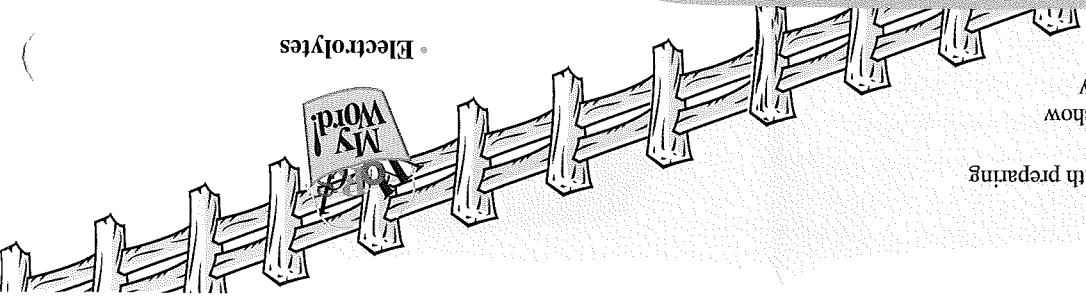


It takes a lot of work to get ready for a show!

There's No Business Like Show Business!

- Project skill:** Preparing for a show
- Life skill:** Self responsibility
- What youth will do:** Learn what is involved with preparing for and going to a show
- Success indicator:** Names things needed at a show and things to do to be ready for a show

• Electrolytes



Preparing for a Show

Meat of the Matter

Things you need to do to prepare for a show:

- Trim feet (at least a week before the show)
- Clip, groom and wash your animals
- Check on health requirements for the show (vaccinations, worming) and obtain health certificate if necessary
- Examine equipment for cleanliness, damage, wear
- Label all items with your name
- Decide how much feed to take
- Wash and iron your show clothes
- Send in entry forms (remember to send in entry fees for each class you want to enter)
- Collect necessary paperwork (registration papers, health records, etc.)
- Arrange for someone to do your chores at home while you are gone
- Get clear directions to the show grounds
- Study answers to questions that could be asked in showmanship class
- Practice proper showmanship techniques
- Train and condition your goat
- Get the phone number of a vet in the area of the show
- Dehorn if necessary (well in advance of show!)
- Tag or tattoo
- Make sure truck and trailer are registered and in good shape for travel
- Arrange for transportation to show
- Clip, trim, and bathe animal; clean ears, eyes, and nose
- Keep necessary records and take to the show
- Feed for performance
- Check premium book for show regulations and dates
- If you will be selling your animal at the show, make sure all medication withdrawal dates have passed



You may want to take water from your farm along when you show. Some animals don't drink well when they are away from home because they don't like the taste of "strange" water. Consider putting electrolytes in water for healthy mineral intake.

Udder Ideas

1. Go to a show and interview showpeople about what is involved in getting ready for a show.
2. Make a tack box.
3. Make a videotape of the process of getting ready for a show.

Ruminations

Chew Your Cud (Share)

- What are some things you need to take to a show?
- What are some things you need to do to get ready for a show?

Gain Ground (Process)

- Why is it important to get ready for a show ahead of time?
- What are the consequences of not being organized and ready for a show?

Forge for More (Generalize)

- What other things do you participate in that require you to be prepared ahead of time?
- How can you show that you are responsible about the things you own?

Wattle You Do Next? (Apply)

- How can you help others prepare for shows or other events?
- How can what you learned help you prepare to go to summer camp? School? College?

Situation	I have done	I have seen
Having a tantrum in the show ring, such as throwing ribbon		
Being patient when another exhibitor's animal misbehaves in the ring		
Shouting commands to an exhibitor from outside the ring		
Entering a record book or project that was done by a parent or someone else		
Starting false rumors about an exhibitor or judge		
Using illegal substances on animals so they will look or perform better		
Altering animals artificially through the use of dyes, glues, etc.		
Loaning clothing or equipment to someone who has forgotten theirs		
Using bad language		
Disturbing other exhibitors' animals to put them at a disadvantage		
Taking someone else's equipment		
Expecting others to keep your area clean		
Thanking the judge and shaking hands following an exhibition class		
Bragging after winning a class		
Showing, fitting or grooming an animal that belongs to someone else.		

Start Capering

Read the statements below and check if you have seen or done one of the behaviors listed. Add additional examples of good and poor sportsmanship you have seen. After you have completed the checklist, discuss each situation with your group.

Have you ever been at a livestock show and watched someone become very upset because their animal did not place well? How about poor conduct at a school or sporting event? How you react to both winning and losing, as well as how you treat others, is part of sportsmanship. One of the most important things you can develop through 4-H is great character. This lesson will help you to think about your character and the importance of good sportsmanship.

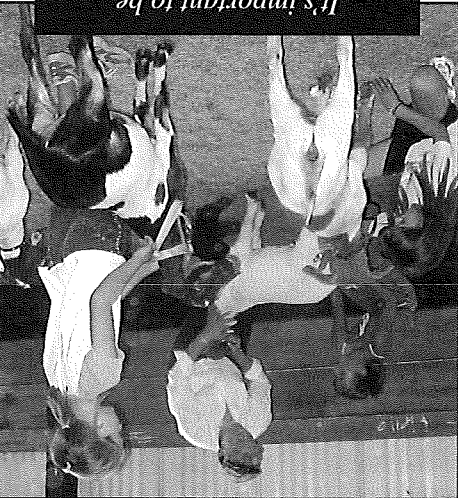
Be A Sport

- Project skill:** Forming a basis for a moral position
- Life skill:** Character development
- What youth will do:** Identify times they have observed poor sportsmanship and good sportsmanship
- Success indicator:** Exhibits good sportsmanship in the show ring

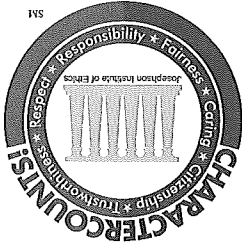
Herdsmanship is part of showmanship.



It's important to be courteous in the show ring.



Good sportsmanship isn't reserved for the show ring—it should happen before, during and after a show. Someone who is "a good sport" shows that they are a person of character. A national program called CHARACTER COUNTS!™ encourages young people to think about how their actions reflect their true character. The Six Pillars of Character™ are:



- Trustworthiness
- Respect
- Responsibility
- Fairness
- Caring
- Citizenship

Friends, colleges, employers, award committees and potential spouses look for people who have good character. Long after people have forgotten that you were Grand Champion Showman at your fair, they will remember your reputation and character. You may never get a blue ribbon for your fairness, trustworthiness or citizenship, but character DOES count!

GOOD SPORTSMEN

- Follow all rules
- Are ethical
- Are honest
- Do not cheat
- Treat animals with kindness and respect
- Treat others with courtesy and respect
- Dress correctly for each situation
- Keep their promises
- Accept the ruling of judges and referees without complaining
- Exhibit their own work

Udder Ideas

1. Create a series of skits that demonstrate good and poor sportsmanship.
2. Make a video to teach others about sportsmanship.
3. Create a scrapbook of examples of good and bad sportsmanship that appear in newspapers or magazines.
4. Brainstorm with a group: what are the qualities of good sportsmanship?

Ruminations

- Chew Your Cud** (Share)
- What are some examples of good sportsmanship you have seen? How about poor sportsmanship?

Gain Ground (Process)

- Why is good sportsmanship important?
- What are some consequences of poor sportsmanship?
- Why is good sportsmanship important if you are representing a group such as 4-H?

Forage for More (Generalize)

- Besides sports and showing, what are other situations that call for good sportsmanship?
- What are some examples of good and bad sportsmanship displayed by professional athletes?

Wattle You Do Next? (Apply)

- How will what you learned help you to improve your sportsmanship?
- How can you teach others about proper sportsmanship?

Acknowledgements:

Showing Character. Louisiana State University Cooperative Extension
 A Line in the Sand video
 A Question of Ethics video
 CHARACTER COUNTS! and The Six Pillars of Character are service marks of the CHARACTER COUNTS! Coalition, a project of the Josephson Institute of Ethics. www.charactercounts.org

Health and Disease

CHAPTER 3

Project skill: Recognizing signs of illness and health
Life skill: Decision making
What youth will do: Pretending to be sick goats, youth will describe or act out to the group how they feel
Success indicator: Explains what to look for when selecting a healthy animal

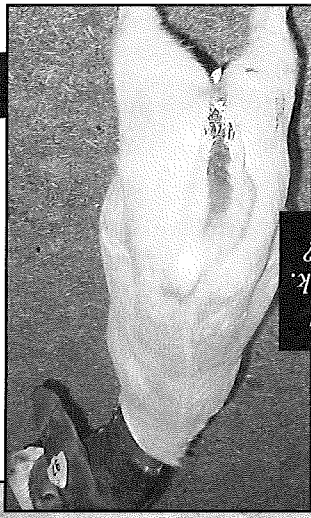
Ding Dong Bell, Is That Kid Feeling Well?

Do you want to buy a sick goat? No! This activity will help you learn how animals act when they are sick. You need to learn this so you can decide if an animal you want to select is healthy or ill. You don't want to buy a sick animal—it could be *contagious* and bring diseases home to your other animals and even die. By the way, you will have to have a healthy imagination for this activity!

Start Capering

Pretend to be a sick goat. Either write down or act out how you feel as you pretend to have various signs of illness. Remember, act like a sick goat, not a sick person! Have your friends guess the problem that is being acted out. Here are some problems to act out or write about.

Ailment	
Sore foot	
Belly ache	
Worms	
Blindness	
Torn muscle	
Lice	
Bad tooth	
Fever	
Pinkeye	
<i>Pneumonia</i>	
Weakness	
Other	



This messy tail could mean this wether is sick. What could be wrong?



What could be wrong with this "kid"?

- Hydrated
- Pneumonia
- Dehydrated
- Contagious
- Parasite
- Wether



Ruminations

Chew Your Cud (Share)

- What illnesses did you act out?
- Did you enjoy this activity? Why or why not?

Gain Ground (Process)

- How will this activity help you remember what to look for when you want to select a healthy goat?
- Why is it important to be able to tell if an animal is sick or healthy?

Forage for More (Generalize)

- Have you ever seen any of these signs of illness in a real goat? Which ones, where and when?
- What other times or places is it important for you to make decisions?

Wattle You Do Next? (Apply)

- Where and how can you learn more about diseases of goats?
- How can you teach others how to select a healthy animal?

Meat or the Matter

Is Your Goat Fit as a Fiddle?

Healthy animal	Sick animal
General appearance Bright, active, curious, alert, playful; neither too fat or too thin	Dull, depressed, inactive, standing alone, lying down, too thin or too fat
Appetite and thirst Good	Eating or drinking too much or not at all
Hair coat Smooth and glossy, no parasites	Dull, dry, falling out, bare patches, discolored, parasites
Eyes Bright and moist, no discharge	Dull, dry, sunken, discharge
Nose No abnormal discharge	Watery or snotty discharge
Breathing No abnormal sounds; normal rate	Coughing, wheezing, gasping, rate increased or decreased from normal
Skin Pliable, hydrated, no parasites, no wounds or sores	Parasites, dehydrated, sores
Abdomen No abnormal shape	Bloated or shrunken
Mucous membranes Normal pink color	Pale, yellow, or white
Feet and legs No swellings or lameness	Lame, abnormal smell, swelling
Udder Even halves, teats normal; normal milk color and character	Swollen or uneven halves, abnormal color or temperature, milk off color or with odd smell
Testicles Normal size and shape	Shrunken or enlarged, painful



Measures of health:

- Heart rate = 70 to 90 beats per minute (adult; can be twice as high in kids)
- Respiration rate = 10 to 30 breaths per minute (adult); 20 to 40 (kids)
- Temperature = 101.5° to 104°F



This is a healthy kid!

Udder Ideas

1. Go to a farm and observe animals to see if any are ill. Write down your observations.
2. Talk to a veterinarian about how they can tell what is wrong with a sick goat.
3. Read a book about goat health.
4. Do an Internet search for the phrase "goat health;" read interesting articles, print them out and make a notebook of the ones you'd like to keep.

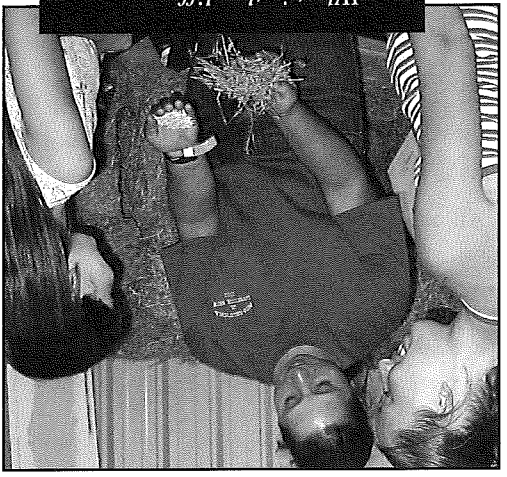
protein
energy
calcium
hay
nutrient
grain
minerals
browse
feed
water
roughage
forage
silage
TDN
grazing
concentrate

T D N C D E A Y O I W C M I P H N E
A Q M Z V R O U G H A G E M R B E G
B N A B S G Z W N S T E H Y O A X A
I K S R B P O F J F E E D N T S Z L
K I F O R A G E T U R A I N E A N I
N H I W N O L J T M J A H H I B C S
I F L S G S C X H A Y A J L N V H Y
M I N E R A L S C G R A Z I N G J W
L B R E A B R P A Q R T E H W X O E
E I S O I T M A S E T E N E R G Y T
V R K E N X P Z L B S N I E S W N D
A S M D D L E H M U I C L A C M A G
B M A O F D U B B E D F U R E N Y X
N O N U T R I E N T E N G Q W H O E
M A E V L I E S R N J Y E D Y J R C

Goat Nutrition Word Find

Finally using the words below, try the Goat Nutrition Word Find.
(The daily dry matter requirement varies from over 6% of body weight for young goats to 3% of body weight for older non-milking goats.)

What is the difference between hay and grain?



When compared to beef cattle, meat goats require almost twice as much feed per pound of body weight to maintain themselves.

Start Capering

In the table on the right, list the five major nutrients and identify a feedstuff in the goat's diet that provides high amounts of each nutrient. Next, weigh your goat and then calculate how much total feed your goat should consume each day. When complete, present your findings to a friend or group. *Note:* your helper may need to help you with some of the math.

Goat's weight (lbs.) x 0.05 (5 percent) = _____ pounds of dry food per day.

(The daily dry matter requirement varies from over 6% of body weight for young goats to 3% of body weight for older non-milking goats.)

A Feed That Provides This Nutrient		Nutrients
1.	For me	For my goat
2.		
3.		
4.		
5.		

As browsers, goats are willing and able to eat a broader range of plants than cattle. A sheep, or horses. They eat shrubs, weeds, hay, grasses, briars and many other plants. There are some foods that are better for goats than others. It is important that you understand how to feed your goat since proper feeding will help your goat grow and keep it healthy.

- Energy
- Forbs
- Legume
- Nutrients
- Phosphorus
- Probiotic
- Silage
- Supplement
- Palatability
- Browse
- Calcium
- Carbohydrates
- Concentrate
- Dry Matter
- Intake
- Digestibility
- Forage

I'm Stuffed

- Project skill: Investigate nutrients and ways to feed goats
- Life skill: Self responsibility
- What you'll do: Identify nutrients that goats need
- Success indicator: Names the five categories of nutrients and a source of each

Feeds and Nutrition

Food for Thought AND for Your Goat

Meat of the Matter

Meat goats depend mostly on *forage* to meet their nutritional needs. Common forages include grasses, hay, weeds, *browse*, *forbs* and *silages*. Goats prefer browsing on brush rather than grass and select the highest quality portions of browse to eat. The daily *dry matter intake* of goats ranges from 3–6% of their body weight. Younger animals and lactating does can eat closer to 6%; older animals eat closer to 3%. For growing, working or lactating goats being fed grain, 50–60% of their total daily dry matter intake should be roughage and the other 40–50% grain. The amount of feed eaten per day will depend on the dry matter content, *palatability* and *digestibility* of the feed. Forages tend to be high in *calcium*, while grains tend to be high in *phosphorus*. The calcium to phosphorus ratio for meat goats should be between 2:1 and 3:1 for healthy bone development and prevention of bladder stones.

When forage alone isn't able to meet all your goat's nutritional needs, you will need to give *concentrates* and/or *supplements*. **Minerals** can be supplemented best by providing trace mineralized loose salt. Meat goats require a trace mineral salt that contains copper and selenium but low levels of phosphorus. Feeding *legume* hay with adequate **protein** may be the best way to add protein. Grain such as corn, oats or barley are full of *carbohydrates* and may be fed to add **energy** to the diet.

If you add more grain, add baking soda to the grain or provide baking soda free choice, or add a *probiotic* powder to the grain. More grain means more acid in the rumen. More acid can kill the normal rumen bacteria and cause digestive problems. Animals that need to develop muscle quickly may be fed a supplement with 30% fat and 16% protein. A 50-lb. animal will need only one teaspoon of this supplement daily. Healthy goats make their own **vitamin** B, C, D and K. Vitamin A is found in green forage. Vitamins can be supplemented by purchasing special feed or giving injections.

Water is the most important nutrient. Like your body, the goat's body is made mostly of water. Without adequate amounts of good quality water, animals are not able to function and grow properly. Always provide as much clear and clean water as your goat will drink.

Udder Ideas

1. Watch your goat while it is browsing and write down what plants it likes to eat.
2. Take a sample of the hay and grain you feed your goat and have it analyzed by a forage testing service; then ask your 4-H club leader or county agricultural agent to help you compare the nutrient analysis with the nutrient requirements of your goat.

Ruminations

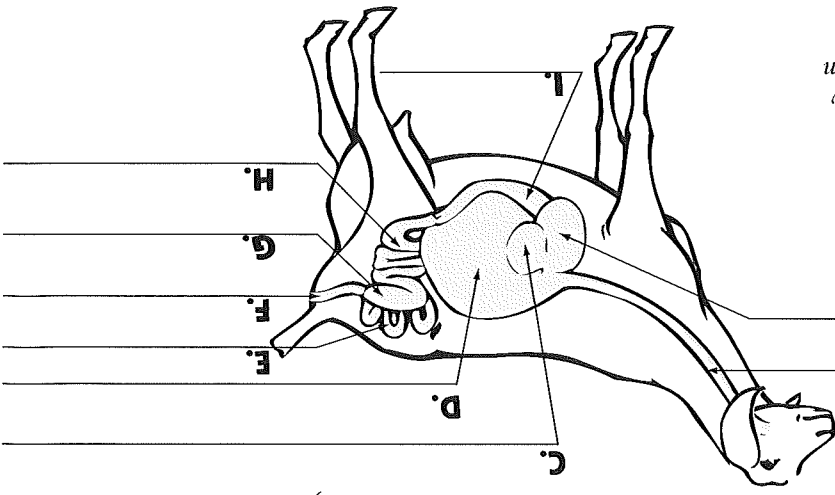
- Chew Your Cud** (Share)
- Where did you find the information you needed?
 - What new terms did you learn?

- Gain Ground** (Process)
- What is a nutrient?
 - How can you be sure your goat is getting all the nutrients it needs?
 - Why is it important that you learn how to feed your goat properly?

- Forage for More** (Generalize)
- Do you require the same nutrients as your goat? Why or why not?
 - In what other ways are you responsible for your goat's health and well being?

- Wattle You Do Next?** (Apply)
- How do you know you are getting all the nutrients you need each day?
 - How will you use your new knowledge to change how you feed your goat?

Ruminants (especially cattle) sometimes swallow small nails or pieces of wire when they eat. These often collect in the reticulum, causing "hardware disease." To prevent injury to the digestive tract, some people give their ruminants a small magnet by mouth. A magnet binds metal objects and keeps them in the reticulum where they do not cause harm.



Using the words from the list, label the parts of the goat's digestive tract. (Note: these parts have been simplified in the drawing. See the Web site for more detailed information).

Animal Species	Rumen (quarts)	Reticulum (quarts)	Omasum (quarts)	Abomasum (quarts)	Small Intestine (quarts)	Cecum (quarts)	Large Intestine (quarts)
Meat Goat							
Beef Cow							
Pig							
Horse							

Word List:

- Rumen
- Reticulum
- Omasum
- Small intestine
- Abomasum
- Esophagus
- Cecum

Photo copyright 2002 GoatWorld.com and used with permission

Complete a table that compares the size of the parts of digestive tracts for goats, pigs, beef cattle, and horses.

Learn the parts of the goat's digestive tract and compare them to digestive tracts of other domesticated animals. Learn what happens to feedstuffs when they pass through the digestive tract.

Start Capering

Before food can be used, it has to be digested first. Just like your digestive tract, the goat's digestive tract is specialized to digest the feed it eats. Understanding the type and parts of the goat's digestive tract can help you make wise decisions regarding the way you feed and care for your goat.



Meat goats need concentrates and supplements to help them grow quickly.

One of the most important things your goat needs is plenty of clean water.

Ruminant on This!

- Micro-organisms
- Protozoa
- Enzyme
- Ruminant
- Bacteria
- Cud
- Fiber
- Microbes

Project skill: Investigating the ruminant digestive system
Life skill: Learning to learn
What youth will do: Learn and compare parts of the digestive systems of farm animals
Success indicator: Understands and explains the different types of digestive systems

Digging into the Digestive System

Meat of goats are *ruminants*. This means they digest their food by fermentation. Their stomachs are divided into four compartments: the rumen, reticulum, omasum, and abomasum. Ruminants swallow their food after chewing it very briefly. The feed goes into the rumen, which is a large compartment on the left side of the abdomen. Feed is mixed in the rumen, where it is also partially broken down by *micro-organisms*. When the rumen is full after a meal, the goat may lie down. Long-stemmed feed is brought back up into the mouth, where the goat will thoroughly chew the feed (its "cud"). This process is called *rumination*.

In the rumen and reticulum, feed is mixed and broken down into smaller particles. This allows *bacteria* and *protozoa* to better digest the feed. The type of *microbes* living in the rumen depends on the type of feed a goat consumes. As feed passes through the third compartment (the omasum), it is compressed and water is absorbed. The abomasum is the fourth stomach; it is called the "true stomach." Gastric juices are mixed with feed particles in the abomasum, where digestion with *enzymes* is similar to what occurs in the stomach of non-ruminants, such as humans.

Feed next passes into the small intestine where it is mixed with pancreatic juice, bile, and intestinal juice. These substances further break down proteins, fats and starches using enzymes. Some of the starch is converted to sugar and many of the nutrients are absorbed through the wall of the small intestine into the blood stream. Remaining feed passes into the large intestine where water is absorbed. The undigested feed material is known as feces and is excreted from the body.

Udder Ideas

1. Take 1/4 cup of grass hay and alfalfa hay. Place each in a separate cotton bag. Boil the bags in a solution of washing detergent (1 tablespoon per cup of water). This will digest all of the nutrients, leaving only the *fiber* in the bag. Rinse the bag in cold water and squeeze dry before opening. Compare the amount of fiber in each feedstuff. What does this tell you about the quality of each hay?
2. Using the chart you completed on page 26 as a guide, fill a large container with various amounts of water so you can see how big these compartments are.

Ruminations

Chew Your Cud (Share)

- What did you learn about the goat's digestive tract?
- Where did you find the information you needed to do this activity?
- Explain what a ruminant is.

Gain Ground (Process)

- How does the goat's digestive system differ from that of the pig or horse?
- Why is it important to know the parts of the goat's digestive system?

Forage for More (Generalize)

- Is your digestive tract more like that of a goat, a beef cow, or a pig? Why?
- Why are ruminants better able to digest plants than humans are?

Wattle You Do Next? (Apply)

- How will you use what you learned about the goat's digestive tract in your feeding program?

Husbandry of Animals and Resources

CHAPTER 5

- Project skill:** Designing goat facilities
- Life skill:** Self responsibility
- What youth will do:** Plan facilities to keep their goat safe and healthy
- Success indicator:** Describes a good design for goat facilities

Goat Crib

Have you thought much about where your meat goat will live? How much room will it need and what type of shelter would be best? Before your goat comes home, all of these decisions must be made. Facilities do not have to be expensive, but they need to provide an area where goats can get out of the weather. This activity will help you make decisions about building shelter for your goats to keep them healthy and safe.

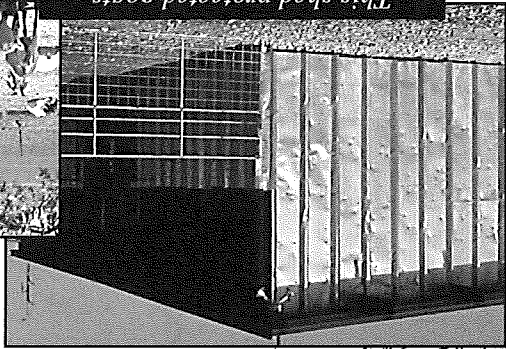
Build a model goat pen and shed out of 20 Popsicle sticks. Using the sticks and glue, make a three-sided shed with a roof. Next, build the model pen area so that it is attached to the shed. Use more Popsicle sticks as needed. Attach a photo or drawing of your finished structure below.

Start Capering

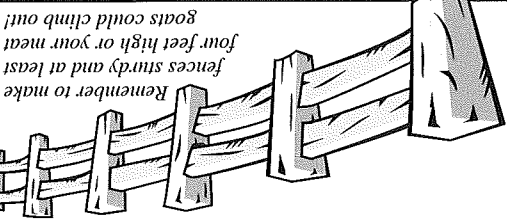
Use your imagination as you create a shelter for your goats!



This shed protected goats during a hailstorm; the trees provide shade on a hot day.



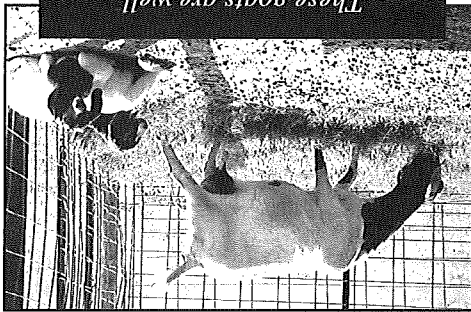
• Predator



Remember to make fences sturdy and at least four feet high or your meat goats could climb out!

Hints for Building Goat Facilities

- Pens should provide **at least** 15 square feet per goat. Sheds should have a solid wall to protect against the usual direction of the wind (often the north side).
- Fences should be **at least** 4' tall; 6' tall will provide better protection against *predators*.
- Water and feed should be at opposite ends of the shed (keeps water cleaner).
- Gates should have self-closing springs.
- Latches should be impossible for goats to open.
- Avoid barbed wire.
- Consider using a strand of electric wire at the bottom and top of the outermost fence on your property.



These goats are well protected by a good fence.

- Pens are generally twice as long as they are wide.
- Goats need protection from rain, wind, sun and predators.
- Slant roof so water can run off and be drained away properly.
- Ensure good drainage around shed so ground isn't damp and muddy.
- Consider using as much metal and concrete as possible (except in loafing and bedding areas).
- Provide safe areas for goats to jump and play on.

Udder Ideas

1. Go to a farm and ranch store and check out the various types of fencing materials. Make a chart that compares costs per linear foot.
2. Create a photo journal of various goat facilities.
3. Interview producers about what facilities they recommend.
4. Add plastic goats to your Popsicle stick facility and display it at your county fair.

Ruminations

Chew Your Cud (Share)

- What challenges did you have building your pen?
- How did you decide how large to make the shed and pen?

Gain Ground (Process)

- Why is it important to meet the housing needs of goats?
- Why do you have to make sure there is enough room for each goat?
- Besides enough space, what else do goats need?

Forage for More (Generalize)

- What supplies would you need to build real facilities and pens?
- How can what you learned help you build other types of structures?
- Where can you find building plans?

Wait! You Do Next? (Apply)

- Analyze your current goat facilities. What is OK? What should be changed, and how?



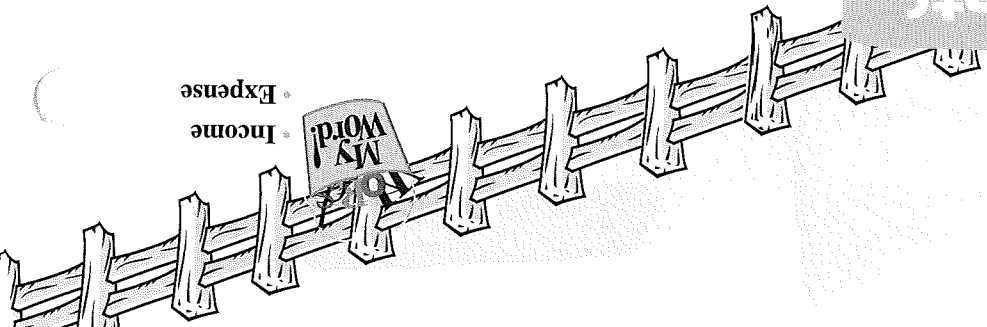
Metal and concrete surfaces are easier to clean and disinfect than wood and dirt are.

Staple your budget paper to the page when you are done.

My short-term purchasing goals: _____
 My medium-term purchasing goals: _____
 My long-term purchasing goals: _____

Now take two rolls of pennies; they will represent your income from your project. Let each penny represent one dollar. Look at your expenses from Part 1 — these are bills you must pay. Do you have money left over after paying your bills? Do you have any money left over to use for your purchasing goals? Besides purchases, what other types of personal expense categories could you have?

Part 2. Goal setting. Think about a little something you would like to buy tomorrow, something more expensive in a month, and something quite expensive in six months. These are your short, medium, and long-term purchasing goals. Write them below.



C. Subtract your expenses from your income. The answer is how much money you made from your goat project (your profit). If you know how many hours you spent on your project, you could divide the profit by the number of hours of work and find out how much you earned per hour!

Expense category	Item	Price
Equipment	Hoof trimmers	\$17.99 + tax

B. Now think about your sources of income and write these down. Be as specific as you can.

A. On a piece of paper, make a list of the type of expenses you have for your goat project. Find out the actual cost of items in each category. Continue until you can't think of any more expenses.

Part 1: Developing a budget.

You may need an adult and a calculator to help you with this activity.

Start Capering

Do you think someone who makes money with their animals is just lucky? This activity will help you learn that it takes more than luck to be successful—it takes good planning and wise use of your time, labor, skills, knowledge, and money. By taking responsibility for how you use your money, you will learn an important life skill that many adults have not learned!

Making Kid Cents into Big Bucks

- Project skill:** Developing a budget
- Life skill:** Self responsibility
- What youth will do:** Develop a basic budget for their meat goat project
- Success indicator:** Names three expense categories, three sources of incomes, and three financial goals

Ruminations

Chew Your Cud (Share)

- What budget categories did you name?
- How does taking responsibility for your money make you feel?

Gain Ground (Process)

- Why is it important to learn how to make and use a budget?
- What are the results of not using your money wisely?

Forage for More (Generalize)

- How can you control your expenses?
- What can you do now to start saving money for college?

Wattle You Do Next? (Apply)

- How can you learn more about money matters?
- What could you do if your expenses are greater than your income?



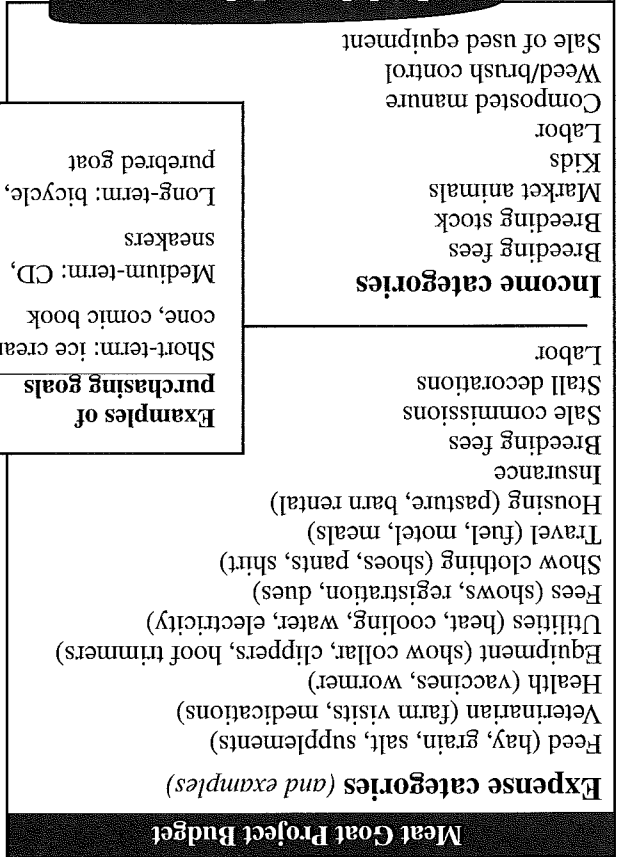
- Read the parable of the ant and the grasshopper to learn about the pitfalls of failing to plan ahead and save!
- "A penny saved is a penny earned!"
- Remember, you are responsible for paying your bills. This helps you start developing a good reputation and a good credit history. Plus, it is just the right thing to do!

Meat of the Matter

Money Matters!

Youth earn a profit from their project if their income is greater than their expenses. Creative youth can learn how to reduce expenses or generate more income to earn more profit. Examples include joining with others to buy bulk feed to receive a discount; buying good used equipment; camping or staying with friends to reduce travel expenses; providing their own labor; exchanging a breeding fee for a kid; working for a vet to pay off a bill; many other situations are possible.

Below are possible budget categories for a meat goat project. It does not include sources of income such as birthday money, mowing lawns, recycling cans, allowance, etc. because these are not related to the project, but a youth could choose to spend this income on their project animal and enter this information in the budget, too.



Udder Ideas

1. Talk with a certified public accountant about budgeting.
2. Set up a savings account at a bank.
3. Make a table about how much money you will have in 20 years if you save \$1, \$5 or \$10 a week.

Don't forget to send a thank you card to the person who volunteered to teach you these skills!

Basic Management Skill			
I Need to Learn It	I Can Teach It	I Can Do It	
			1.
			2.
			3.
			4.
			5.
			6.
			7.
			8.
			9.

Invite a veterinarian, experienced producer or other knowledgeable person to conduct a hands-on workshop about basic management skills. You will need to find this resource person, offer a polite invitation, arrange for a convenient time and place to hold the workshop, get animals to work on and arrange for their transportation, assemble necessary equipment, offer refreshments, advertise the workshop to interested people, and serve as host throughout the day. Don't forget to think about the weather, set up hand-washing stations, and thank all volunteers for their time and effort!

Make a list of basic management skills. Check off the ones you can do already and also check off the ones you know well enough to teach to someone else.

Start Capering

One of the best ways to learn new information is by having an expert give you hands-on instruction. In this activity you will learn how to perform many basic goat management skills that you will use very often in your career with goats. Pretty soon these skills will be second nature to you and you will be able to share your knowledge with someone else!

Learning the Ropes

Project skill: Practicing basic management skills
Life skill: Learning to learn
What youth will do: Arrange a hands-on workshop to learn basic management skills from an expert
Success indicator: Names and describes five routine skills that are needed to care for goats



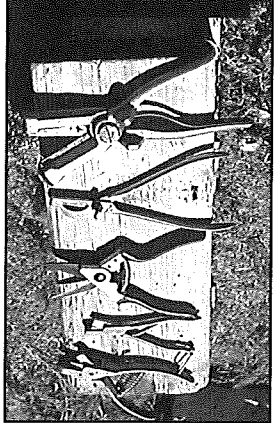
- Elastrator
- External
- Oral
- Vaccination
- Antibiotics
- Dehorn
- Disbud
- Drench
- Bolus
- Castrate



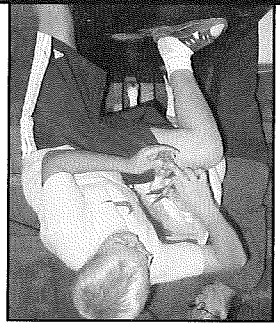
Mastering Goat Management Skills

Basic goat management skills include:

- Giving injections such as *vaccinations* or *antibiotics*
- Trimming feet
- Handling all sizes and types of goats
- *Disbudding* or *dehorning*
- Giving *oral* medications such as *drenches* or *boluses*
- Dipping kids' navels when they are born
- *Castrating* or *elastrating*
- Tube feeding newborn kids
- Applying dusting powders for *external* parasites



There is a lot of equipment to learn to use!



"I'm glad someone showed me how to trim feet properly!"



Someone with a lot of experience should dehorn your kids for you until you can do it safely.



It is very important to learn how to tube feed a newborn kid correctly!

Udder Ideas

1. Create a video or photo diary of you demonstrating basic skills; write or narrate a script to go along with it.
2. Go to a goat farm and help the producer give shots, trim feet, etc.

Meat of the Matter

Ruminations

Chew Your Cud (Share)

- What skills do you already have?
- What skills did you need to learn?
- How did you feel about learning something directly from an expert?

Gain Ground (Process)

- Explain the importance of each skill you learned.
- Why is it helpful to learn from someone who knows a topic very well?

Forage for More (Generalize)

- What other things could you learn in a hands-on way from an expert?
- How could you learn more about goat management?

Wattle You Do Next? (Apply)

- How can you share what you learned with others?
- How can you improve your basic goat management skills even more?

A

Antibiotic - a substance that can kill or harm bacteria

B

Bacteria - one-celled organisms, some of which are harmful and some beneficial

Biohazard - danger from a micro-organism or other disease-causing agent

Bohus - medication in pill form

Breed - a group of animals with common ancestry and characteristics that are passed on from generation to generation through controlled mating

Breed association - an organization of people interested in preserving and promoting a certain breed of animal

Browse - branches, twigs, weeds, shrubs, leaves, and shoots that goats like to eat

Buck - an uncastrated male goat, sometimes called a "billy"

C

Cabrito - Spanish for "little goat," and used in some parts of the U.S. to refer to kid meat and/or barbecued meat

Calcium - a mineral found in high quantities in most forages, that helps build strong bones and helps muscle function

Carbohydrates - sugars and starches in feed; a source of energy

is in the feed

Dry matter intake - the amount of feed an animal eats per day minus the amount of water that

is given in a goat's mouth; to give medication in a goat's mouth

Drench - a liquid medication

Domesticated - tame

Doe - adult female goat

very young goats

Disbud - remove horn buds of

absorbed by the digestive tract

a feed that is broken down in and

Digestibility - the percentage of

amount of water

Dehydrated - lacking a normal

Dehorn - remove horns

animal

Dam - the mother of a particular

fat, thin skin, long neck

lean muscles, flat bones, little

signs of a goat's milking ability:

Dairy character - physical

D

Cud - a mass of soggy fiber that ruminants burp up and re chew

as a certain breed

animal that cannot be registered

parents of different breeds, or an

Crossbred - an animal with

one animal to another

Contagious - can be spread from

matches the ideal for the breed

is put together; how well it

Conformation - how an animal

oil, sunflowers, peanuts, oats

soybean meal, corn, cottonseed

protein or energy such as

Concentrate - a feed high in

meat

Chevon - French term for goat

Castrate - to remove the testicles

E

Elastrate - castrate using elastic rubber bands

Electrolytes - minerals/salts such as sodium, chloride, potassium and magnesium added to water when animals are ill, or to help prevent illness in stressed animals

Energy - one of the five major nutrients; usually provided by fats and carbohydrates

Enzyme - a substance that speeds a chemical reaction

Esutcheon - part of the female's anatomy between the vulva and udder

Expense - cost or fee

External - outside

F

Fiber - part of feed that is resistant to chemical digestion; adds bulk to the diet. Also refers to mohair and cashmere produced by goats.

Flock - a group of sheep, goats, or chickens

Forage - a feed high in fiber like grasses, legumes, hay and weeds

Forbs - herbs other than grasses; includes flowers and some weeds

H

Herd - a group of cattle, horses, hogs, or goats

Hydrated - has normal amount of water

I

Income or revenue - money earned or coming in

Intramuscular - in the muscle

K

Kid - a goat under one year of age

S

Scrapie - a rare but fatal disease of sheep and goats that the U.S. is working to eliminate
Siblings - animals with the same parents; brothers and sisters
Silage - forage preserved by fermentation, not drying
Sire - the father of a particular animal

Standards or breed standards - a written description of what a specific breed should look like; determined by the breed association to better the breed toward perfection; includes things such as general appearance, color, size, and sometimes production traits
Subcutaneous - under the skin
Supplement - something added to the diet to provide missing nutrients, such as a mineral mix
T

Trip - a group of goats
Twist - the meaty, rear thigh area of the hind legs
Type - purpose or use of an animal (meat type, dairy type, draft type, pack type)
V

Vaccination - injection of weakened bacteria or viruses given to animals to protect them from certain diseases
W

Wean - remove a kid from its dam and/or stop allowing access to milk
Weaning weight - how much an animal weighs when it is weaned

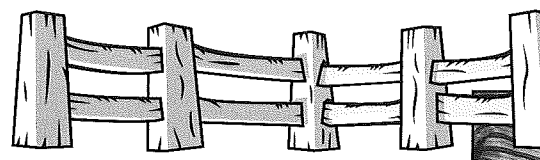
Wether - a castrated goat
Withdrawal date - the date after which a medication has been cleared from an animal's body and the animal can be sold for meat

P

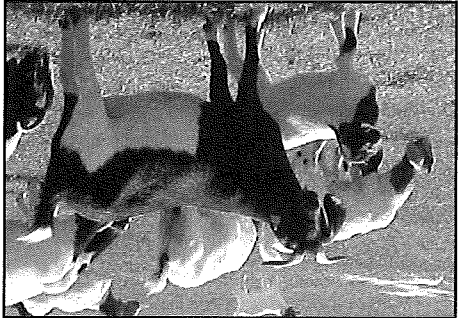
Palatability - how tasty or desirable a feed is to an animal
Parasite - a living thing that lives at the expense of another living thing, causing harm
Phosphorus - a mineral found in high quantities in most grains, necessary for strong bone development; also found in fertilizers and animal wastes; used by plants for growth
Pneumonia - disease of the lungs caused by viruses or bacteria; often contagious
Predator - a living thing that preys on other things, often killing them
Probiotic - product that includes dried form of good micro-organisms that ruminants need for digestion
Protozoa - the smallest form of animal life; a microbe
Purebred - an animal recognized as a certain breed with same-breed parents; could be recorded in an association registry

Q
Quality assurance - making sure that food is safe and wholesome
R

Residues - remainders of medicine or other substances found in animal products
Ruminant - a group of plant-eating, cud-chewing animals with several stomach compartments
Rumination - process of chewing cud



Kids of all kinds like



L

Legume - a broad-leaved plant high in protein such as alfalfa, clover, vetch, birdsfoot trefoil, etc.
Loin eye muscle - the long muscles running along both sides of the spine; valuable meat cut
M

Market goat - a goat that is raised for meat and weighs within the market weight limits; must still have its baby (milk) teeth
Micro-organisms or microbes - very small, one celled organisms like bacteria and protozoa
Milk teeth - baby teeth; appear by four weeks of age and are gradually replaced by adult teeth
N

Nutrients - energy, protein, water, vitamins and minerals
O

Observe - see, smell, hear, feel or taste
Oral - pertaining to the mouth

Meat Goat Resources

Associations

International Fainting Goat Association

3450 230th St.

Terril, IA 51364-7510

(712) 853-6372

<http://www.faintinggoat.com>

American Meat Goat Association

P.O. Box 676

Sonora, TX 76950

<http://www.meatgoats.com>

American Kiko Goat Association

P.O. Box 186

Lakeland, GA 31635

(229) 244-6058

www.kikogoats.com

American Boer Goat Association

1207 S. Bryant Blvd., Suite C

San Angelo, TX 76903

(915) 486-2242

www.abga.org

International Boer Goat Association

P.O. Box 310

Bonham, TX 75418

(877) 402-4242

www.intlboergoat.org

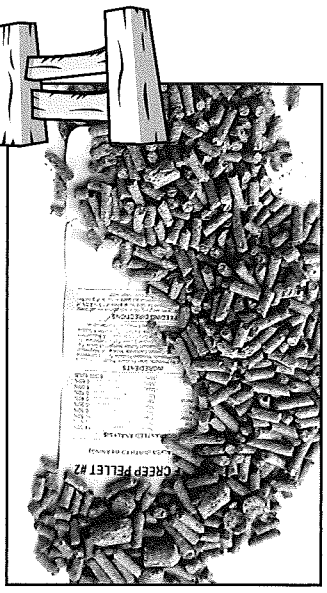
U.S. Boer Goat Association

P.O. Box 663

Spicewood, TX 78669

(877) 640-4242

www.thebga.org



Books

Meat Goats of Caston Creek

by Sylvia Tomlinson

Redub Publishing Company,

1999

ISBN: 0739202367

Meat Goats, Their History, Management and Diseases

by Stephanie and Allison

Mitcham

Crane Creek Publications, 2000

ISBN: 096644762X

Goat Health Handbook

by Thomas R. Theford, DVM

Winrock International, 1983

ISBN: 1-57360-001-6

Raising Meat Goats for Profit

by Gail Bowman

Bowman Communications, Inc., 1999

ISBN: 0-9670381-0-3

Your Goats: A Kid's Guide to Raising and Showing

by Gail Damerow

Capital City Press, 1993

ISBN: 0-88266-825-0

Raising Goats for Milk and Meat

by Rosalee Sinn

Heifer Project International, 1986

Meat Goats by Sara Emond

Alberta Agriculture, Food and Rural Development, 1994

ISBN: 0-7732-6119-2

Veterinary Parasitology Reference Manual

by Dr. William J. Foreyt

Washington State University College of Veterinary Medicine

SCAVMA Bookstore

P.O. Box 2188CS

Pullman, WA 99165-2188

509-335-8359

Goat Medicine by Mary C. Smith and David M. Sherman

Williams and Wilkins, 1994

ISBN: 0-8121-1478-7

Catalogs

Sydell Inc.

46935 SD Hwy. 50

Burbank, SD 57010-9605

800-842-1369

<http://www.sydel.com>

PBS Livestock Health

2800 Leemont Ave. N.W.

P.O. Box 9101

Canton, OH 44711-9101

800-321-0235

Quality Llama Products & Alternate Livestock Supply

33217 Bellinger Scale Rd.

Lebanon, OR 97355

800-638-4689

www.goatproducts.com

Valley Vet Supply

P.O. Box 504

Marysville, KS 66508-0504

800-468-0059

www.valleyvet.com

American Livestock Supply, Inc.

P.O. Box 8441

Madison, WI 53708-8441

800-356-0700

www.americanlivestock.com

Wiggins & Associates, Inc.

1155 Southwest Towle Ave.

Gresham, OR 97080-9626

800-600-0716

www.wiggininc.com

Pipestone Veterinary Supply

1300 So. Hwy. 75

P.O. Box 188

Pipestone, MN 56164

800-658-2523

Nasco Agricultural Sciences

901 Janesville Ave.

Fort Atkinson, WI 53538-0901

800-558-9595

www.enasco.com

Caprine Supply

P.O. Box Y

DeSoto, KS 66018

800-646-7736

www.caprinesupply.com

Sullivan Supply

701 Iowa Ave.

Dunlap, Iowa 51529-1335

800-475-5902

www.sullivansupply.com

Magazines

Runimations

The Nigerian Dwarf Goat Magazine

Editor: Cheryl K. Smith

22705 Hwy. 36

Cheshire, OR 97419

PBS Livestock Health

2800 Leemont Ave. N.W.

P.O. Box 9101

Canton, OH 44711-9101

800-321-0235

gogoats@gmi.net

www.goatrancher.com

The GOAT Magazine

9250 New Salem Rd.

Pleasantville, OH 43148

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www.goatmagazine.com

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Ranch Publishing

P.O. Box 2678,

San Angelo, TX 76902

www.ranchmagazine.com

mgn.html

(915) 655-4434

info@ranchmagazine.com

The Line in the Sand Video

What's The Beef Video

A Step Beyond Video

The Heart of the Matter Video

A Question of Ethics Video

All available at:

Goodwin Educational Videos

Institutional Materials Service

Texas A&M University

College Station, TX 77843-2588

(409) 845-6601

Fax: (409) 845-6608

\$55.00 per tape; shipping and handling add 10%

Other Resources

Goat Learning Kit

The Ohio State University

254 Agricultural

Administration Building

2120 Fyffe Rd.

Columbus, OH 43210-1067

(614) 292-4848

Fax: (800) 292-4919

www.cms.ag.ohiostate.edu/4D

www.actionweb_inventory.html

vidualdisplay/404IK

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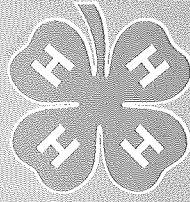
- Agricultural Science**
 - Afterschool Agriculture
- Animal Science**
 - Beef
 - Cat
 - Dairy Cattle
 - Dairy Goat
 - Dog
 - Embryology
 - Entomology
 - Exploring Farm Animals
 - Exploring 4-H Robotics
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 - Small Engines
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 - Computer
 - Electric Excitement
 - Aerospace Adventures
 - Exploring Farm Animals
 - Horse
 - Veterinary Science

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 - Bicycle Adventures
 - Child Development—Kids on the Grow
 - Keeping Fit and Healthy
- Nutrition**
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 - Communications—Express Yourself!
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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.

I pledge

The 4-H Pledge

