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Appendix 6: Making a Global Impact

Created: Winter 2019 by the National FFA Organization

Part 1

DIRECTIONS:

Read the article "Global Impact" in the Winter 2019 issue of *FFA New Horizons* and answer the questions below.

1. What country did the FFA chapter decide to help?

2. Locate and color in this country on the map.



3. What animal does this country have a great dependence on?

Part 2

DIRECTIONS:

Using the Tractor Supply Company website (<https://www.tractorsupply.com/know-how/pets-livestock/livestock-other/goat/goat-care-for-beginners-how-to-care-for-goats>), explore the basics of goat care. If internet access is not available, ask your teacher for the Goat Information Sheet.

What does the term ruminant mean?

- a. The animal has four stomachs.
- b. The animal has a four-chambered stomach.
- c. The animal has a stomach like humans.

What does it mean if an animal is chewing its "cud"?

- a. The animal is eating.
- b. The animal is consuming salt.
- c. The animal is chewing regurgitated food.

Minerals are important for humans and goats. Goats should be given salt with trace amounts of selenium. Draw selenium's square as shown on the periodic table.

Atomic Number	→	
Symbol	→	
Name	→	



True or False
Cartoons show goats eating just about everything regardless of nutrition. Is this true or false?

Which of the following plants are considered poisonous and should not be consumed by a goat? Place a red X over the poisonous plants.



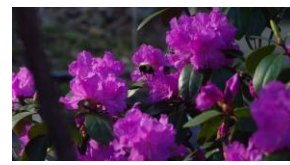
Collard Greens



Hemlock



Lilac



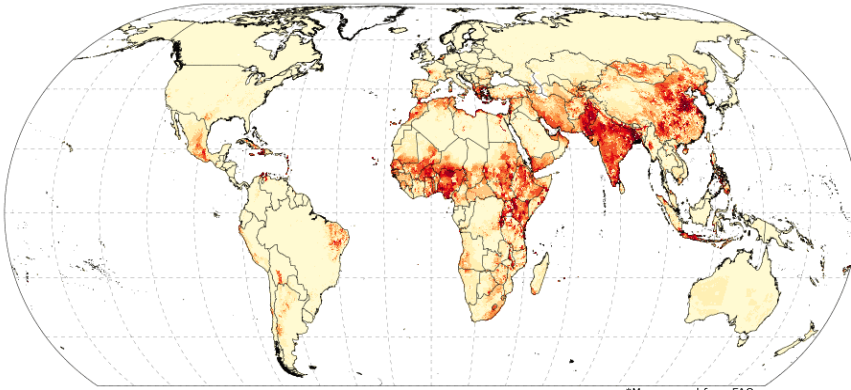
Azalea

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Part 3

DIRECTIONS:

Goats are incredibly important across the globe. Learn where goats are most commonly produced and why by completing the following activities.



The map to the left depicts the density of goats in a region. The darker the red the more goats present. Why do you think the goat density is so high in some areas? What about those areas may lead to more goats being raised?

DIRECTIONS:

Goats are beneficial because they can provide milk, meat and fiber, depending on the breed. Using the AgMRC website, <https://americangoatfederation.org/goat-products/>, complete the following activities to learn about goat products. If internet access is not available, ask your teacher for the Goat Information Sheet.

Goat Fiber

- What are the two main types of fiber acquired from goats?
 1. _____
 2. _____
- Identify two products that can be made from the fiber of goats.
 1. _____
 2. _____

Goat Milk

- Why is goat's milk considered to be so nutritional?
- Identify three products that can be produced from goat's milk.
 1. _____
 2. _____
 3. _____

Goat Meat

- What term is used to identify goat meat (40–60lb butcher weight)?

- Goat meat is a great option for those that need to do what in their diet?

DIRECTIONS:

Develop a 30-minute radio segment to share with consumers how goat products affect their daily lives.

What is the economic impact of goats in the U.S.?

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Aligned to the following standards:

CS.02; FFA.PL-A; FFA.PL-E; FFA.PG-J; FFA.CS-M; FFA.CS-N; AG2; CCSS.ELA.RI.9-10.4; CCSS.ELA.W.9-10.2; CCSS.ELA.SL.9-10.1; CCSS.ELA.SL.9-10.2; CCSS.ELA.SL.9-10.4; MP1; MP5; MP6; CRP.02; CRP.04; CRP.07

Goat Information Sheet

DIRECTIONS:

Use the following information from Tractor Supply Company and the American Goat Federation to learn about caring for goats and the products we get from them.

Goat Care for Beginners: How to Care for Goats

Goats are ruminants, or mammals that digest roughage by chewing, partially digesting, regurgitating and then chewing it some more. When you hear people say that goats or cows are chewing "cud", they are actually chewing the partially-digested roughage that was previously swallowed.

Roughage for Goats

Because goats are ruminants, the majority of feed goats consume should be roughage. This includes "browse" such as shrubs and woody plants, and also forage, such as hay and pasture.

Roughage is not always enough to satisfy the nutritional needs of goats. Supplement your goats' forage diet with pelletized or coarse grain goat feed. Work with your veterinarian to develop a feeding plan for your goats to ensure they are getting the proper amount of nutrition.

There are several types of browse that are poisonous to goats. Care should be taken to eliminate access to enclosures that contain these plants:

Poisonous Plants to Goats

- Azaleas
- Hemlock
- Wild cherry
- Members of the laurel family
- Many others. Contact your county agricultural extension agency for a complete list of poisonous plants in your area.

When considering the quality of roughage for goats, a distinction should be made between "poor quality" roughage for cattle and "poor quality" roughage for goats. Goats are not able to digest the cell wall of plants because feed stays in the digestive tract for a shorter amount of time. Therefore, plants with thicker cell walls, such as straw, provide almost no nutritional value for goats but may be sufficient for cattle. Goats will eat various plants that are not palatable to cattle, such as leaves from trees and shrubs, and goats are known to eat almost anything regardless of its nutritional value.

Hay can be fed as a source of digestible fiber. To avoid waste, install a wall mounted hay rack in your goats' barn stall.

Livestock Supplements for Goats

Especially when roughage quality is poor, goats should be supplemented with quality supplements formulated specially for goats. This will ensure that goats' nutritional requirements are met. Generally, milk goats are fed more supplements than meat goats. It is easy to overfeed a goat which leads to obesity and a lowered rate of productivity. Commercial feeds specifically formulated for goats such as DuMor goat formula are recommended to help prevent obesity. Refer to livestock feed labels for specific goat feeding suggestions or visit your local Tractor Supply Co. store to get advice from an expert team member.

Minerals for Goats

Goats require several specific minerals for basic body function and optimum production. Goats should have access to trace mineral salt containing selenium at all times. A complete mineral supplement formulated especially for goats is also recommended during certain seasons when browse and forage may be sparse and during peak production levels. In addition, other minerals may be naturally deficient in your area, so it is a good idea to consult your local agricultural extension agency for specific mineral feeding suggestions. Goats are susceptible to Grass Tetany, although not to the same degree as cattle. Grass Tetany is caused by a deficiency in magnesium and occurs most frequently when goats are grazing lush pasture in the spring but can also occur in fall and winter. Offer a mineral supplement with higher levels of magnesium prior to exposing goats to lush pasture land.

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Water for Goats

Water needs in goats vary with seasonal changes, level of production and moisture content of forage. Because of the unpredictable fluctuation in water demand, goats should have access to an adequate supply of fresh water at all times.

Goat Feeding and Supplement Guide

Refer to the table below to figure out how much to feed your goat and what to feed goats:

Product	Unit Size	Feed Rate
Sheep & Goat Block	33-1/3 lb Block	1 Block per 12-15 head
Sheep & Goat Block	50 lb. Bag	1 lb. per head per month
4% All Stock Block	50 lb. Bag	1-2 lbs. per head per month
16% Sheep & Goat Tub	100 lb. Tub	_____
Dried Molasses	50 lb. Bag	_____

Creep Feeding Goats

Creep Feeding refers to feed provided to goat kids, or baby goats, in an area specifically designed to prevent adult goats from consuming the feed. Creep feed is a way of supplementing a goat mother's milk and pasture feed. Creep feeding is known to help goat kids develop healthier immune systems and increased weaning weights.

Q and A: Answers to the Most Frequently Asked Questions about Goat Care

- Q. Where can I find the most accurate and up-to-date information about goat feed offered at Tractor Supply Co.?
- A. Everything you need to select the right kind of goat feed can be found on feed labels.
- Q. What should I feed my goat?
- A. Goats are ruminant animals, which is a term that refers to any animal with a multi-chambered stomach. Goats are primarily "browsers", which means they pick and choose between a wide variety of weeds, shrubs, woody plants and even briars. However, most goats will need nutritional supplements in addition to forage. This includes pasture, hay and concentrates.
- Q. How much should I feed my goat?
- A. Nutritional requirements of goats can vary depending on life stage, activity level, pregnancy, lactation and breed. Increased production demands will also cause an increase in nutritional demands. Because of this wide range of nutritional needs, when feeding supplement concentrates or grains, read the label on goat feed bags for suggested feeding quantities. Consult a veterinarian who is familiar with your goat's breed and the quality of forage in your area. Also consider that meat production goats have different nutritional needs than milk production goats. Care should be taken to avoid feeding goats too much. Obese animals have lower reproduction rates and are subject to arthritis.
- Q. What is urea, and can I feed it to my goat?
- A. Urea is a non-protein source of nitrogen commonly used for ruminants due to convenience, availability and low cost. Micro-organisms in the goat's rumen, or part of the goat's large intestine, use urea to produce protein. The protein is then digested and absorbed by the goat's body. Goats can digest urea, but it is highly unpalatable to them. As a result, they may actually avoid feed or supplements that contain urea.

Other Supplies You May Need While Caring for Goats

- Submersible tank heater (for livestock tanks)
- Plastic 5 gallon bucket
- 4-quart galvanized feed scoop
- White salt (sodium chloride) 50 lb. block
- White salt 4 lb. brick
- Trace mineral salt 50 lb. block
- Trace mineral salt 4 lb. brick
- Sheep and goat mineral 50 lb. bag
- Sheep and goat protein block
- 16% sheep and goat tub 100 lb. tub
- Goat drench
- Goat fly spray
- Goat bunk feeder
- Mesh gates
- Goat watering tanks

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Goat Dairy Products

Dairy goat milk can be used for a multitude of useful products. Goat milk is an excellent source of nutrition, as is goat cheese. Goat milk can be used to make soaps and lotions that are beneficial in as much as they don't contain a lot of chemicals.

Nutritious Goat Milk

Whole cows' milk is about 17% fatty acids. Goats' milk averages 35% fatty acids, making it more nutritionally wholesome.

Up to 50% of people who are lactose intolerant to cows' milk find that they can easily digest goats' milk.



HOW TO MAKE GOAT MILK SOAP

Goat Fiber Products

The two most common fibers produced from goats are mohair and cashmere. Angora goats produce mohair. Cashmere is a type of fiber, not a breed and goats are selected for the fiber they produce.



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Goat Meat Products

Cabrito is meat from very young, milk fed goats between 4 and 8 weeks of age.

Chevon may be goat from 48 to 60 pounds and 6 to 9 months of age.

Capretto is the Italian term "kid goat."

Whatever you call it, goat meat, when prepared properly, is delicious.

For centuries goat meat has been enjoyed throughout the Middle East, Asia and in many European countries. In fact, it is one of the most commonly consumed meats in the world. Goat is the meat of choice in some countries and is utilized in many dishes of Spanish, Middle East and Greek origin. In the United States goat meat consumption has been historically low compared to other countries. During recent years; however, with the increase in the Hispanic and Far Eastern populations, consumption of goat meat in the United States has grown to the point where we now import over 50% of the goat eaten here. In addition, Americans are beginning to appreciate the healthy nature of goat meat.

Goat meat is approximately the equivalent in caloric value to chicken and has less than half the calories of beef and pork per serving. This is desirable for persons with a need to reduce their caloric intake.

Based on 3oz of Cooked Meat	Calories	Fat	Saturated Fat	Protein	Iron	Cholesterol
GOAT	122 <i>LOW</i>	2.58 <i>LOWEST</i>	0.79 <i>LOWEST</i>	23 <i>HIGH</i>	3.3 <i>HIGHEST</i>	63.3 <i>LOWEST</i>
BEEF	245	16	6.8	23	2.9	73.1
PORK	310	24	8.7	21	2.7	73.1
LAMB	235	16	7.3	22	1.4	78.2
CHICKEN	120	3.5	1.1	21	1.5	76

Information from USDA Database for Standard Reference Release 14 (July 2001)

Today's goat meat is prepared in many ways following diverse recipes with many different added ingredients. Ground goat can also be easily substituted for ground beef in most dishes. However, the authentic cooking practices are either baked or barbecued (asado) or stewed (guisado) with traditional cumin, garlic and chili pepper spices. Fresh goat meat should be removed from the market wrapping paper and re-wrapped, unless the meat is to be used the same day it is purchased. Fresh meat should be frozen if it is to be kept for three days or more and should be placed in the coldest part of a refrigerator or in the meat compartment. Goat meat which has been properly wrapped and promptly frozen at 0°F or lower can be kept for 6 to 9 months. Cooked goat meat should also be chilled rapidly, covered and stored in the coldest part of the refrigerator.



Goat meat will lose moisture and can toughen quickly due to low fat content if it is exposed to high, dry cooking temperatures. Therefore, two basic rules are: 1) cook it slowly (low temperature) and 2) cook it with moisture. Tender cuts of meat are usually best when cooked by a dry heat method such as roasting, broiling or frying. Less tender cuts are tenderized by cooking with moist heat such as braising and stewing.

Tender cuts of goat meat are the legs, ribs, portions of the shoulder cut, the loin roast and the breast. Less tender cuts of meat are stew meat, riblets and shanks. Cooking any meat at low temperatures results in a more tender and flavorful product with more juice.

GOAT MEAT RECIPES

