

Small Animal Husbandry

Dairy Goats

Learning Objectives

- ❑ Understand the scope involved in goat husbandry for small-scale farming.
- ❑ Know the function of ruminant digestion.
- ❑ Learn about the process of gestation & birthing goats.
- ❑ Consider the different reasons for raising kids and milking goats.
- ❑ Discover the multifaceted use of keeping goats on the farm.



Terms to know

- ❑ Kidding- the birthing of goat babies, called kids
- ❑ First Freshener- a doe who has kidded and is lactating for the first time
- ❑ Colostrum- the first secretion from the mammary glands after giving birth, rich in antibodies
- ❑ Mastitis- a disease of the udders

Topic Breakdown



- ❑ Breeds
- ❑ Housing & Bedding
- ❑ Feeding & Nutrients
- ❑ The Pregnant Doe
- ❑ Raising Kids
- ❑ Milking/Proper Handling
- ❑ Diseases & Common Ailments
- ❑ Permaculture Integration
- ❑ Midwest Considerations
- ❑ Resources

Breeds



Alpine



LaMancha



Nubian



Toggenburg



Sanen



Oberhasli

Housing & Bedding

Things to Consider Before Construction

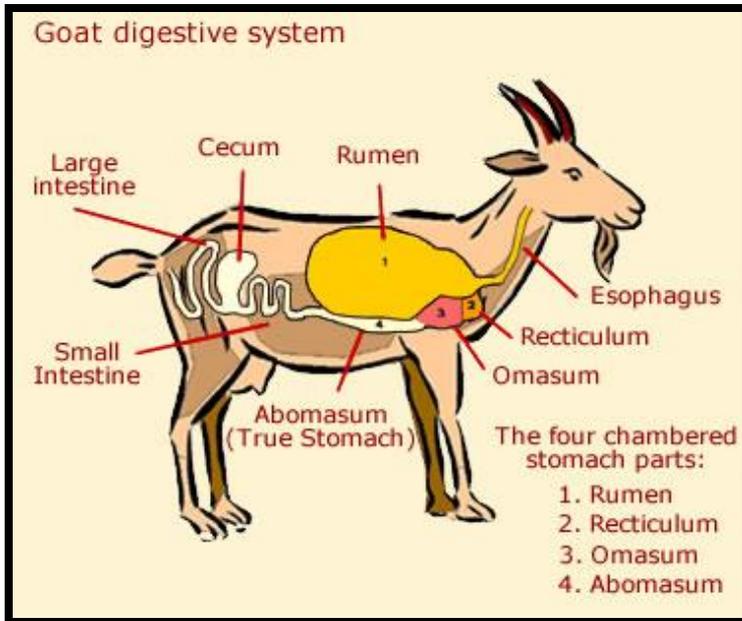
- Shelter From Wind
- Good Ventilation
- Clean Dry Bedding
- Accessibility to Clean Water
- Contamination Free Feeders
- Shelter from Rain & Snow

Two types of Housing

- Communal Living
- Individual Pens



Feeding & Nutrients



Overview of Ruminants

- Goats have four stomachs.
- Large numbers of protozoa and digestive bacterium live in the rumen. Their job is to breakdown protein, starch, fats, and cellulose through a process of fermentation.
- Rumen occupies eighty percent of stomach space in a mature doe.
- Goats are browsers, and need to eat with head drawn so food enters the slit in the esophagus and moves towards the rumen. Goats then regurgitate masticated food and chew their cud during times of rest.

Feeding & Nutrients



Proper Feed Rations

- Goats must have quality roughage such as alfalfa or grass hay.
- Concentrated grain rations are required for milking does due to heavy protein output.
- Proper mineral intake is extremely important for pregnant and lactating does.
- Lactating goats will need additional food and grain. See <http://www.ansc.purdue.edu/goat/factsheet/health-nutrition.htm>



Feeding & Nutrients



Basic Needs & Feeding Systems

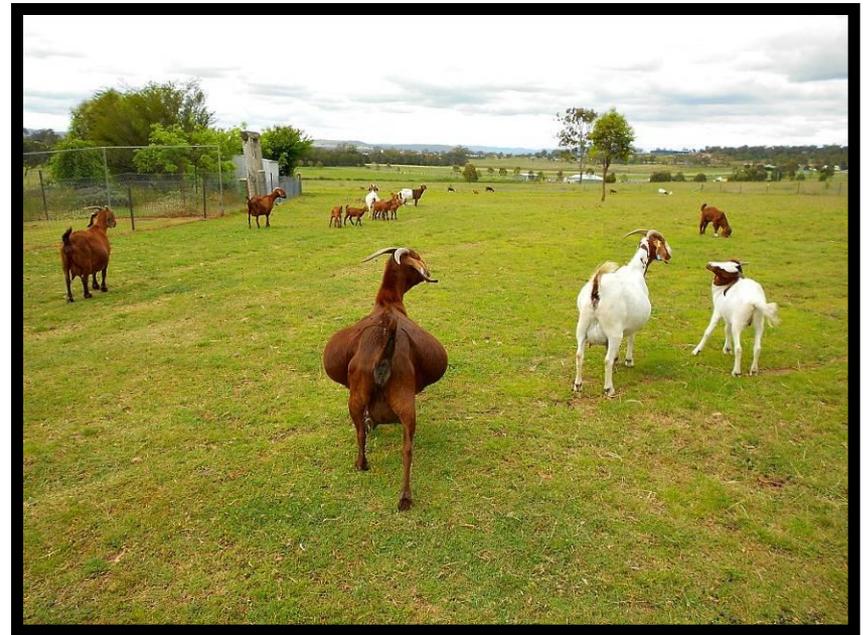
- Goats should never feed off the ground due to the risk of feed contamination with fecal worm load and unhealthy coccidiosis load.
- Water should be clean and free of phytoplankton (algae caused by sunlight and organic matter) and zooplankton (algae caused by fecal contamination).
- Water kept slightly warmed will encouraged increased consumption and therefore benefit overall health.
- Feed and feeders should be free of mold and mildew.



The Pregnant Doe

Breeding

- Average gestation for a goat is 146 to 155 days. (about 5 months)
- Goats can be bred when they are 60 to 75 percent of their adult body weight.
- Twins are the most common at around 65% of the time, but triplets and singles also occur regularly. Quads and quintes are rare, but do occur.



The Pregnant Doe

Signs of Approaching Birth

- Goats should be checked regularly for signs of kidding 140 days from breeding. Signs include: hollow flanks, discomfort, nervousness, widening of the space between the pin bones, and rapid filling of udder.



Kidding

- 90-95% of goat births go unassisted.
- Many different kid presentations are possible. The normal being front legs first with the nose resting on the hooves.

The Pregnant Doe

Signs the Doe is Ready to Kid

- Colorless discharge changing to thick and cloudy when delivery is imminent.
- The goat may paw her bedding, lie down, and get up restlessly.
- She will lie stretched out flat pushing with her hind legs against the floor or wall.
- Water bag will appear and in most cases burst revealing legs and or nose.
- Doe will generally rest at this point for a moment and then birth kid with several strong pushes.
- Following kids will be born at varying intervals with no exact time passing between each birth.
- The afterbirth will be passed for each kid and a double afterbirth for identical twins.



The Pregnant Doe



Post Kidding

- First time fresheners often need assistance in helping their kids to stand and begin nursing. Kids may also need help cleaning the mucus out of their nose and mouth.
- Kids should begin nursing within the first ten minutes.
- Kids born during cold spells should be dried and encouraged to drink as soon as possible.
- Dip umbilical cord in weak solution of Betadyne to prevent bacteria from traveling up cord.



The Pregnant Doe

Complications and remedies

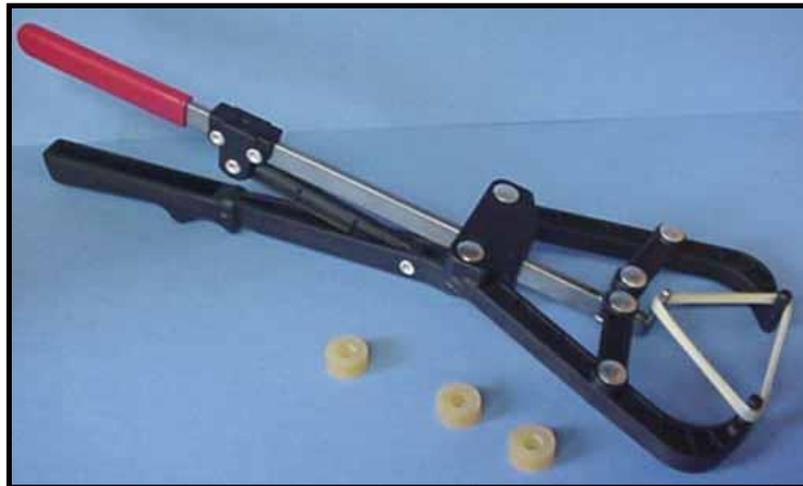
- If kid is stuck at the shoulders during birth and the goat is exhausted and not making progress pull down on hoofs away from birth canal.
- If kid is born listless and unresponsive a mixture of colostrum and strong black coffee may be given as well as a vitamin sucrose mixture. This may stimulate body heat and encourage nursing. It is important that the mixture be delivered to the stomach via tube so young kid does not aspirate and asphyxiate.
- Kids born during extreme cold should be warmed up by the assistance of goat keeper.
- It is very important that all kids born are drinking colostrum within a few minutes of being born.



Raising Kids

Standard Procedure for All Males

Castration should be done as soon as possible or when testicles drop (usually around seven to ten days). The easiest way to castrate a male goat is with an elastrator which applies a tight band around the testicles and sack to cut off blood flow. Eventually the sack and testes will fall off.



Raising Kids

Disbudding

- All kids in the dairy herd should be disbudded when appropriate. A dairy herd with horns will cause added expense and labor as adults due to accidental injury.
- Disbudding is done using a disbudding iron, when the nubs of horns become evident on the head. The disbudding iron is applied in a circular fashion around the nub until a distinct copper ring appears. The top of the nub is scraped off using a hot edge of the disbudding iron.
- It is important when disbudding for the first time that there is an experienced goat keeper at hand, due to the danger in applying the iron incorrectly.
- Disbudding can be done with one person and a disbudding box or with several people working together to immobilize the kid.



Milking/Proper Handling



Milking Schedules

- Most goats are milked at twelve hour intervals.
- Other milking schedules can be used however. Such as a 10 or 14 hour interval from morning till night as long as it is consistent.
- Many homesteaders/ hobby farmers milk their goats once a day and let the babies nurse for the other period.

Equipment

- Milking stands are commonly used to make the milking process comfortable for both human and goat.
- You can milk by hand using a stainless steel pail or invest in an automatic milking machine. Most farmers will begin with hand milking and graduate to a machine milker as needed.

Milking/Proper Handling

Step-by-Step Milking Procedure

- Bring doe into the milking parlor from the loafing pen and secure in the milk stand. Provide food.
- Wash the udder with a warm water bath and then spray down using a weak iodine solution. Use a fresh towel for each goat.
- Dry udders and milk the first stream from each teat through teat cup. Strip cup identifies any abnormalities in milk that would be early signs of bad health such as mastitis.
- Completely milk goat out on both halves of udders taking special care that the udder is completely stripped of milk. Massage or stimulate udders to ensure thorough milking.
- Dip teats in dip cup to prevent bacteria from traveling up milk canal.
- Release and return goat to herd.



Milking/Proper Handling



Essential Milk Handling Procedures

- ❑ Strain milk through specially designed in line milk filters.
- ❑ Cool milk down to 35 degrees Fahrenheit within thirty to forty-five minutes of leaving the udder.
- ❑ Rinse milking equipment with cold water followed by warm water and an antibacterial alkaline soap.
- ❑ Air dry all equipment on rack. Store all equipment upside down.



Diseases & Common Ailments



Bloat

- Symptoms – tightly inflated flanks, extreme discomfort, collapse, and eventual death.
- Cause – over eating of lush wet grass or clover, breaking into food bin, over eating of anything unsuitable or foreign.
- Remedies – feed eight ounces of vegetable oil for adult or two ounces for kids. Massage flanks. Walk goats about continually until symptoms subside.

Diseases & Common Ailments



CAE

(caprine arthritis encephalitis)

- Symptoms – swollen knees and joints, uneven forming of one of the sides of the udder, and loss of appetite.
- Cause – a viral infection caused by contagious contact by other CAE positive goats.
- Remedies – pasteurizing all milk and colostrum fed to kids, blood testing of goats in herd. There is no known cure for CAE.

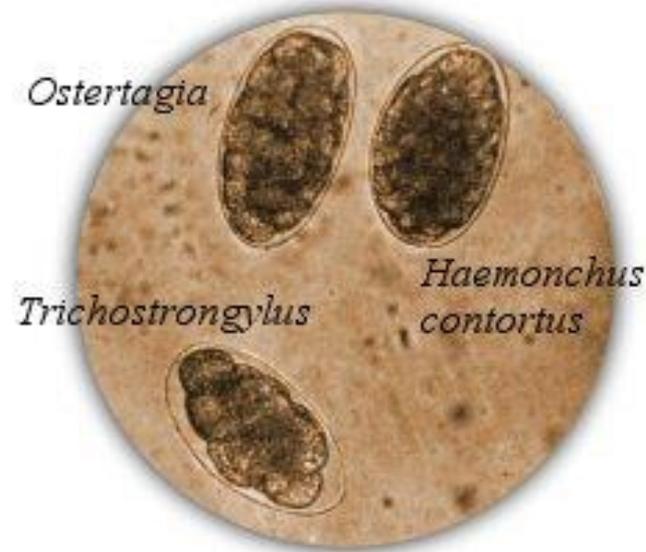
Diseases & Common Ailments



Hoof Rot

- Symptoms – lameness in foot or feet, pungent stinking odor in hoof, black soft deterioration of inner ridge of hoof.
- Cause – prolonged exposure to wet ground or pasture, hoof trimming negligence.
- Remedies – regular exercise on dry ground, proper and regular trimming of hoof.

Diseases & Common Ailments



Internal Parasites

- Goat herd should be on regular worming schedule as advised by local veterinarian in your region.
- Dewormers come in many different potencies, therefore start with a milder one, resorting to strong wormers only when necessary.

Diseases & Common Ailments



Infected



Healthy

Mastitis

- Symptoms – hardening of udder, clotting and blood streaking in milk, fever, tenderness in udder.
- Cause – bacterial exposure, poor hygienic conditions.
- Remedies – correct management, overall health, treatable with injectable antibiotics and intra-udder injectable.

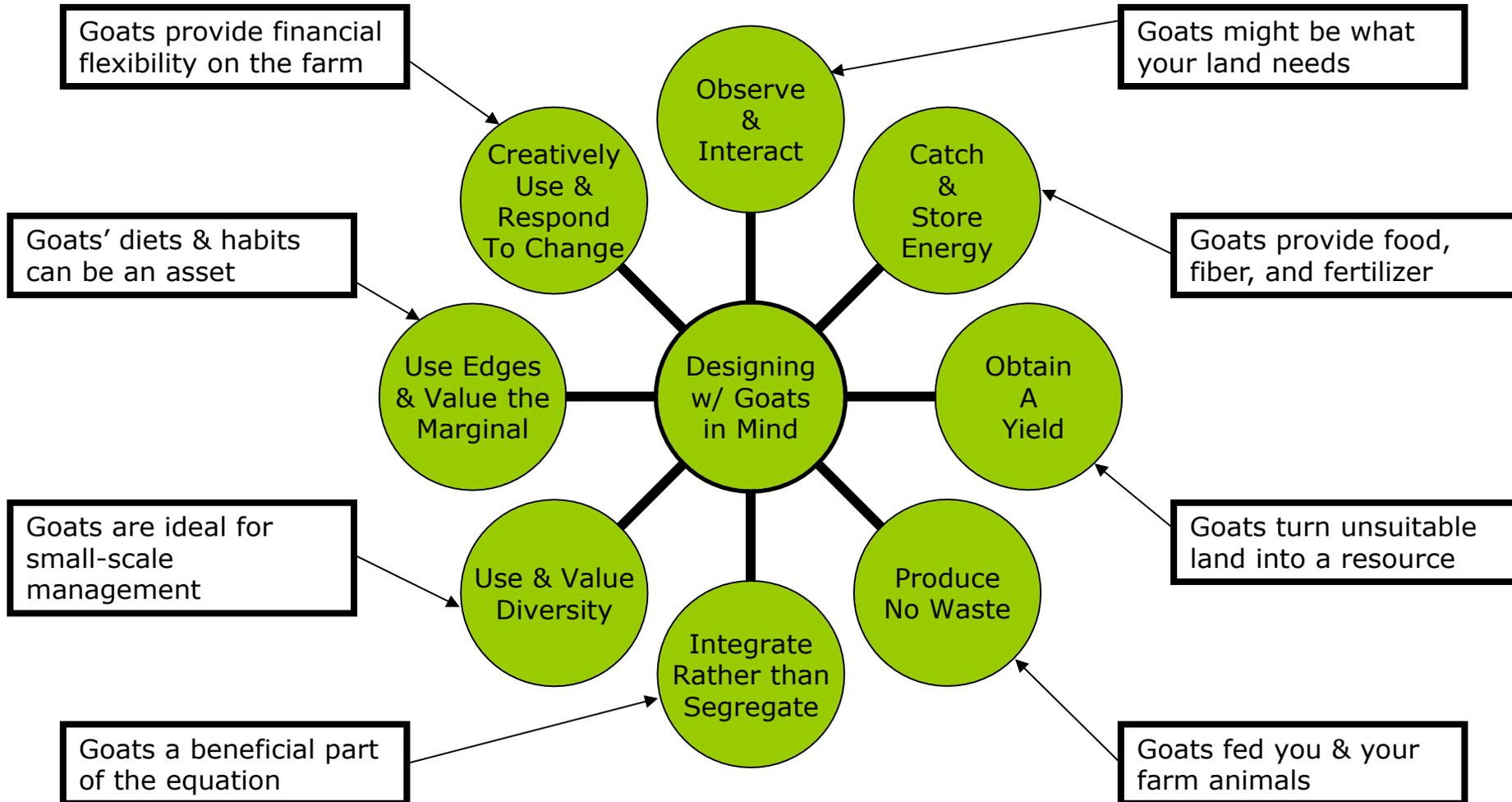
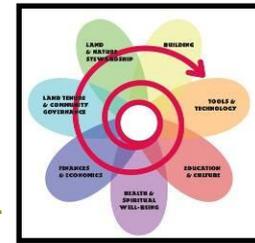
Diseases & Common Ailments



Lice

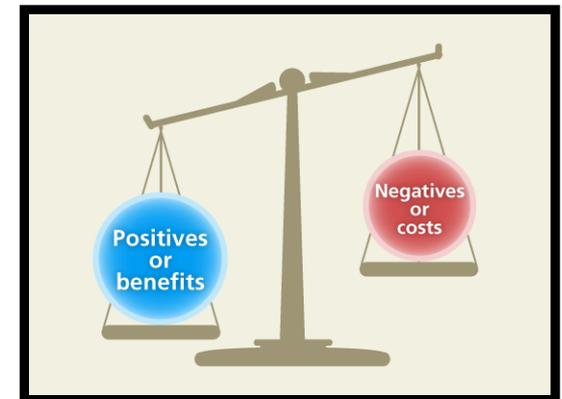
- Symptoms – weakness, anemia, listlessness in kids, emaciation.
- Cause – exposure to domesticated fowl, poor living conditions.
- Remedies – topical and injectable parasite controls designed specially for use in blood sucking ways.

Permaculture Integration



Midwest Considerations

- ❑ Location
- ❑ Climate (temperature, rainfall, & land)
- ❑ Pasture Size
- ❑ Housing Accommodations
- ❑ Market Demand / Sales Outlet
- ❑ Resources / Mentors
- ❑ Cost Benefit Analysis
- ❑ Personal / Financial Risks



Self-Review Questions

- ❑ What are health conditions to watch for in goat herds?
- ❑ What regular care must be provided to prevent these problems?
- ❑ What benefits can goats offer farms?
- ❑ How do the needs of a lactating goat differ from a non-lactating doe?

Resources

Websites

- American Dairy Goat Association

<http://www.adga.org/>

- Dairy Goat Journal

<http://www.dairygoatjournal.com/>

Anglo Nubian Goat Society

<http://www.anglonubiangoatsociety.com/>

- Beginning Farmers

<http://www.beginningfarmers.org/goat-farming/>

- Fiasco Farm

<http://fiascofarm.com/>

- Goat World

<http://www.goatworld.com/>

Resources

YOUTUBE

Kinds of Goats

- http://www.youtube.com/watch?v=PZic_gTEgU&feature=list_other&playnext=1&list=SP18A9BBA720002AD2

Benefits of Raising Goats

- <http://www.youtube.com/watch?v=yWMNc0cxOjk&feature=relmfu>

How to Milk a Dairy Goat

- <http://www.youtube.com/watch?v=bQGgWsStR7w&feature=relmfu>

Healthy Pregnancies

- http://www.youtube.com/watch?v=KlKnpzjXD_E&feature=relmfu

Labor Complications

- <http://www.youtube.com/watch?v=sdoL9mxxORw&feature=relmfu>

Hoof Trimming

- <http://www.youtube.com/watch?v=fJg-3Km3D5A&feature=relmfu>

Resources

Books

- ❑ Storey's Guide to Raising Dairy Goats, 4th Edition: Breeds, Care, Dairying, Marketing By Jerry Belanger
- ❑ Natural Goat Care By Pat Coleby
- ❑ Goat Husbandry By David MacKenzie & Ruth Goodwin
- ❑ Living with Goats: Everything You Need to Know to Raise Your Own Backyard Herd By Margaret Hathaway
- ❑ How to Build Animal Housing By Carol Ekarius
- ❑ How to Raise Goats By Carol Amundson
- ❑ Goats: Small-scale Herding for Pleasure and Profit By Sue Weaver
- ❑ Raising Milk Goats Successfully By Gail Luttmann
- ❑ Goat School: A Master Class in Caprine Care and Cooking By Janice Spaulding
- ❑ City Goats: The Goat Justice League's Guide to Backyard Goat Keeping By Jennie Palches Grant
- ❑ Get Your Goat: How to Keep Happy, Healthy, Goats in Your Backyard, Wherever You Live By Brent Zimmerman