

A PUBLICATION OF THE WSU GOAT PRODUCTION EDUCATION TEAM

Hello! It was good to see many of you in Ellensburg at the Goat Grazing and Production workshop that was sponsored by the Washington State Noxious Weed Control Board. I hope you found An Peischel's presentation informative and thought-provoking. We're always interested in hearing about the types of programs you want and need, so please contact us with your thoughts and ideas. We also appreciate your help in getting this newsletter out to as many people as possible, so please share it with others. *The Kidding Pen* is available as a free hard-copy in English and Spanish, and is also available at <http://extension.oregonstate.edu/wasco/smallfarms/Kidding%20Pen/index.html>. If your e-mail address changes, please let us know so we can tell you when the next issue has been posted to the Web site.

Please tell us about any good goat-related references you come across. Also, we are willing to start an equipment swap column if there is interest. Send your comments, suggestions and newsletter articles to:

Susan R. Kerr, DVM, PhD
228 W. Main St, MS-CH-12
Goldendale, WA 98620
kerrs@wsu.edu 509-773-5817
FAX: 509-773-5707

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SAVE THIS DATE!

August 28 Goat and Cattle Pasture Tour, Outlook, WA. Free! Call 509-837-7911 for more information.



MAKING HOOF TRIMMING EASIER

By Vicki Contini

What's one of the hardest things to stay on top of? For me, it's keeping all those hooves trimmed. Wrestling with a goat that doesn't want its feet trimmed is exhausting! My goats spend most of their time in a pasture, so someone's hooves always need to be trimmed!

The first time I trimmed the buck I purchased last year, I didn't have any problem trimming his feet. A few months later I needed to trim his feet again, even though he was now VERY stinky because it was breeding season. Talk about uncooperative! He not only didn't want me bothering him, he didn't want me bothering HIS girls. Although he wasn't aggressive and didn't try to hurt me, he wasn't the cooperative buck I was expecting. I got his feet trimmed after the does were bred, but I want my animals to cooperate when I need to handle them. It makes emergencies easier to deal with and less stressful for animals and humans alike.

It finally occurred to me -- What do you do when you want any animal of any age to do something? You spend time with them teaching them to do what you want. So, every time I went by the buck I started loving on him and touching or picking up one of his legs. Now, it doesn't matter who's with him or what he is doing; I can pick up and trim his feet.

It also occurred to me that I was neglecting my young buck, so these days I am trying to spend more time with the bucks. I decided that since they end up being bigger than the does and having horns that could easily become lethal weapons, it would be a good idea to make sure they are easy to catch and comfortable being handled. Progress is slow, but I can now walk up to them without having them run away from me. I wouldn't have had such a problem if I had spent more time with them when they were younger. Unfortunately, there is never enough time for everything you need to do!

Something that didn't work well for me: I tried having a little grain in my pocket to catch the bucks, but that only works when my older buck isn't in the same pasture. He doesn't think he needs to share the grain with the younger animals.

Spending time with your animals is good for you and them! I just wish there were more time in a day! Next on my agenda - I need to figure out how to keep the goat's hooves trimmed without me doing all the trimming...



PART 3-THE DIGESTIVE TRACT

By Gary Fredricks, WSU Extension Dairy Specialist

[Editor's note: this is the third installment in a series on nutrition by Gary Fredricks, WSU Extension Dairy Specialist in Clark County, WA.]



What parts are in the ruminant digestive tract?

Sounds like a question that pops up on a game show! Yet to understand how to feed your goat, you need to know how its digestive system works. A ruminant has four stomachs that include the reticulum, rumen, omasum and abomasum. These stomachs give ruminants such as goats, cattle and deer a large advantage in eating and digesting feed that simple-stomached animals cannot use. To begin the journey of feed through the goat's digestive tract, let's start when your goat starts to eat. Once feed is eaten, it is broken down by the teeth into smaller pieces and then passes through the esophagus into the reticulum.

Reticulum

The first of the four stomachs is the reticulum. The reticulum is partially separated from the rumen by a wall of tissue. A large hole allows feed to freely flow back and forth between the reticulum and rumen. There is also an opening on the right side of the reticulum that leads to the omasum. An important feature of the reticulum is the esophageal groove. This groove leads from the esophagus to the opening of the omasum. When a kid nurses, this groove lets milk bypass the rumen and flow directly into the omasum, instead. Milk and colostrum are fermented in the rumen, which destroys beneficial antibodies that help protect kids from diseases.

Rumen

Though small at birth, the rumen grows quickly upon receiving solid food and becomes the largest of the four stomachs in an adult animal. The sooner a kid eats forages, the more rapidly the rumen will grow. The rumen is divided into four regions by bands of muscles. These muscles rotate and mix the feed throughout the rumen. Lining the rumen are fingerlike projections called papillae. The papillae increase the surface area of the rumen and absorb nutrients into the bloodstream, where they are distributed throughout the body.

Omasum-Abomasum

After feed passes back from the rumen into the reticulum, it moves on to the omasum. The inside of the omasum is composed of many leaf-like structures. The omasum removes water from the feed passing through it. The last stomach is the abomasum, which functions like the stomach of simple-stomached animals. It uses acid and some enzymes to further break down feed and absorb nutrients through papillae on its lining.

At this point, feed passes into the small intestine, which secretes different types of enzymes from the pancreas and liver, which further break down the feed and allow it to be digested. From here the feed flows into the cecum, where a little secondary fermentation occurs. Final absorption of nutrients and water happens in the large intestines. Finally, undigested feed matter is passed out of the body through the feces.

Rumination

Ruminants take in great mouthfuls of forage when they graze, and they don't take the time to chew very thoroughly the first time around. When they feel full, they go to a safe place to lie down and ruminate (bring the feed back up for more thorough chewing). The muscles of the rumen-reticulum region move larger pieces of feed back to the esophagus in the form of a small ball called a bolus or cud. Ruminants are able to form negative pressure (a vacuum) in the esophagus that causes the bolus to be brought up into the mouth. Here the ruminant will re-chew the cud and swallow it again, allowing it to be digested more quickly and completely thanks to increased surface area of the fiber particles.

Rumen Digestion

The key feature of the rumen is the microorganisms that live in it. The fluid in the rumen contains billions of bacteria and protozoa. These micro-organisms break down feed into nutrients that are either absorbed by the animal or used to produce more micro-organisms. Basically, the microbes digest the feed and the ruminant digests the microbes. This is why ruminants can live on feeds that simple-stomached animals cannot. Rumen microbes also break proteins down into component parts. They then re-assemble the components into different types of amino acids and proteins for their own use. For this reason, ruminants do not have an amino acid requirement like non-ruminants. While simple-stomached animals have to eat various types of proteins to obtain the 20 different types of required amino acids, ruminants let the microbes do the work of making all the amino acids and then digest them! Microbes also make Vitamin K and all the B-complex vitamins such as thiamin and niacin.



gender, agro-ecology, youth, beginning farmers, volunteers,

urban agriculture and immigrant farming.

How Heifer Works

All of the projects Heifer supports in the US must benefit and involve small, limited-resource farmers in a leadership capacity. However, any individual, group or organization is welcome to initiate or join a project group. Group members direct the development of their projects which may involve any number of goals, including aspects of livestock management, marketing, youth programming, land stewardship, knowledge and equipment sharing, and community food security. A group can be formed within a single county or township, over larger portions of the state, or cover a broader statewide or even multi-state area.

The Project Development Process

Heifer Pacific Northwest Program staff will visit with the group and work with project members to build their program through a participatory process, helping project members identify their community's assets, common values and shared vision for their project, as well as a budget that will help them move towards their goals. Project budgets range from \$8,000 to \$50,000 a year, depending on the size of the group and the type of assistance requested. Funding provided through Heifer International can be used for livestock and other agricultural supplies and equipment, training, and project-related travel.

Passing on the Gift

At the heart of Heifer-funded projects are the commitments made by families, individuals and communities to share what they have received – livestock, training, etc., with others who can benefit from these “living loans.” Helping one's neighbors and peers fosters self-esteem in addition to multiplying the benefits of the original gift from family to family and generation to generation. This practice is a central component of every project that Heifer supports. In general, for every good or service that a family or individual receives as part of the project, a similar good or service (i.e. animals, training) of equal or greater value must be passed on to another family or individual in the project in accordance with the group's own procedures.

Requirements for Livestock Recipients

Project groups may request multiple species of livestock, as Heifer believes farm diversification is one route to improving a farm's ecological and economic viability. However, depending upon the goal of the project, single species requests are also acceptable. Livestock are used for a variety of reasons, including income generation, nutritious farm-fresh food, integrated land use with crops, and strengthening

There are many different types of rumen microbes. Each produces different digestive enzymes, has different nutrient requirements and is able to live under different types of conditions. Consider that the rumen can only support a certain number of microbes, though. For some to flourish, others have to die. When feeding conditions favor one type of microbe, others die. For example, when greater amounts of grain are fed, the rumen becomes more acidic. Some microbes are more tolerant of acidity than are others, such as those that break down fiber. If you feed large amounts of grain and then follow with hay or pasture, the forages will not be broken down as effectively because the acid condition produced by the grain will have killed many of the microbes that digest fiber.

It takes time for microbe populations to change. The more changes you make in the ration, the less effectively feed will be broken down. Remember, you are not really feeding goats, you are feeding the microbes that goats digest. Feeding a balanced diet and making few and gradual changes in the ration will maximize feed digestion and increase your goat's productivity.



THE LURE OF GOING ON-LINE

by Susan Kerr, DVM, PhD

WSU Extension Educator - Klickitat County

- www.caprine.co.nz

Try this site for terrific articles on all things goat. This is a fee-based site, but you can try it free for 24 hours, and a year's access is only \$10.

THE HEIFER PROJECT: NOT JUST COWS!

By Colleen Donovan, Pacific Northwest Program Manager

Heifer International is a non-profit organization that lends its assistance to grassroots groups or established organizations that, through sustainable agriculture projects, are creating strong, socially just and economically viable farming communities. Heifer Project International's North American Program (NAP) is dedicated to assisting families in the creation and preservation of sustainable food systems. With support from the USDA Risk Management Agency, we opened Heifer's Pacific Northwest program office in late January 2003.

Heifer Projects often center on livestock as a means of food, fiber and income for farm families. NAP has eight initiatives that include: Indian Nations,

family participation. Although project partners may be made up of socially- and economically-diverse community members, Heifer uses the general rule of thumb that livestock recipients must live at or below 185% of federal poverty guidelines. Livestock recipients must have adequate pasture, housing, and fencing to suit the specific livestock species.

For more information about the Heifer International program in this area, contact:
Colleen Donovan, PNW Program Manager
 Heifer International, North America Program
 PO Box 739, Ellensburg WA 98926
 (509) 925-7350 or (800) 481-9507
 colleen.donovan@heifer.org

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WHAT'S COOKIN'?

Barbecue Kid Goat



Barbecue Sauce

1 8-oz. can tomato sauce	2 cups water
2 Tbsp. vinegar	1 Tbsp. sugar
2 cloves garlic, minced	¼ tsp. salt
½ tsp. oregano	6 whole cloves
2 Tbsp. butter	½ tsp. cumin
1 Tbsp. ground black pepper	3 carrots, diced

Cut a very young goat (8 to 12 lbs.) into serving pieces. Wash and dry pieces and place in an open pan in a 350° oven. Cook for 20 minutes. Prepare barbecue sauce. Simmer for 30 minutes. Baste meat with sauce every 15 to 20 minutes for 2 hours or until meat is very tender. Use a meat thermometer to make sure internal temperature reaches 160°.

FLORAL FOES

by Susan Kerr,

WSU Extension Educator - Klickitat County

Photosensitizing plants include buckwheat, St. John's Wort, Lantana, Rape, and, for some animals, alfalfa. Photosensitization (excessive sensitivity to light) can be primary or secondary. The primary form is a direct result of chemicals animals ingest in these plants. The secondary form is a result of some sort of damage to the liver. Both forms require exposure to the sun for the damage to occur.

All parts of photosensitizing plants are toxic, whether they are fresh or dried.

Signs of trouble include reddened, blistered and peeling skin on unpigmented (white) areas of the body. Animals could die from excessive fluid and protein loss, secondary infections and liver damage.

Treatment of affected animals includes identifying and removing the offending feed and protecting the animal from the sun. Severely affected animals may need IV fluids and antibiotics.

↓ Buckwheat. Source:
weedeco.msu.montana.edu



→ St. John's Wort.
Source:
botgard.ucl.a.edu

