

## Why Milk the Pygmy Goat? Maxine Kinne

In the early 1980s, my dairy goat friends talked me into milking my Pygmies. I also wanted to help establish quantity and quality standards for Pygmies. Once we tasted their delicious milk - it tastes just like milk, only better - we were hooked. I also found the milking routine soothing and even hypnotic.

I bought a milking stanchion that was a too small for a friend's dairy goats, then I needed a doe in milk. Janny was a 2-year-old whose twins had just sold, and we learned the milking routine together. A doe that has nursed her kids doesn't want her udder messed with by anyone. However, if you handle the udder from a young age and develop a close bond with the doe, she may be more forgiving than Janny or Jennifer were the first year I milked them. The best way to start milking is to take the kids as they are born and remove them from the doe's presence entirely. You milk her just after kidding, so she accepts you as her kid. You've got bottle babies to raise, but that creates a special bond, as you replace their natural mother.

Excess colostrum beyond the kids' requirements can be frozen for future use. Colostrum from older does is higher in antibodies than from young does because older does have been exposed to more diseases.

As a child, my husband tasted some goat milk gone bad and was unimpressed with my venture. I didn't give him a chance to turn it down. Since his first taste, he has been a staunch proponent of the delicate taste and rich quality of Pygmy goat milk. The milk is very rich and sweet due to its high butterfat content.

Milking was a great skill to add to my repertoire. It is excellent relaxation therapy that helps you develop an extra special bond of love and trust with milking does. Getting to the barn to milk twice daily enhances your management - you notice details and tend to keep up with things a little better.

It is very gratifying to produce a high-quality product. I once entered my Pygmy milk in a dairy goat club milk products contest and won first place in the fluid milk division. My prize, appropriately enough, was miniature tin of Bag Balm.

For two years I was on DHI test (Dairy Herd Improvement) to help establish some official records for pygmies. DHI testing shows that pygmies are useful in the milk parlor in addition to their other qualities.

DHI expects goats and cows to milk for a 305-day (10-month) lactation, although their records may be shorter if the animal is dried off for any reason. Official records do not extend beyond 305 days, but extra production is credited toward lifetime production. An impartial tester weighs and takes a sample of each doe's milk, then sends it to a lab for several tests, such as solid non-fat protein percentage, fat content and a California Mastitis Test result. Other optional tests are available. Each month the owner receives a new DHIA report and paperwork for the next test.

Of the DHI options available, SCC is a very useful indicator of udder health, milk quality and sanitation. Management, in other words. Somatic cells are leukocytes (white blood cells), and a beyond certain number in the milk signals mastitis. The two different types of SCC counters (Coulter and Fossomatic) give quite different results because the Fossomatic mistakenly counts extra-cellular debris as leukocytes.

To be on DHI, I had to join an association that recognizes production testing for Pygmies. I double-registered the milkers and the sires of the offspring with AGS. Perhaps NPGA will one day have a testing program.

Pygmy milk and fat quantity requirements are one-third of the dairy goat standards. To earn a milking award, a Pygmy under two years old must produce 500# of milk or close to 18# of butterfat. The requirement rises slightly each year until it peaks at 5 years old: 582# of milk or 20# of fat.

Both does I tested the first year earned star milking awards. Dolly, a first freshener gave an average of just over 2 gallons of milk per week for ten months. She also produced 50# of fat in that lactation, which is more than two-and-a-half times that expected of a mature doe. Jennifer did respectably well as a second freshener, giving an average of 1.8 gallons a week.

A general rule of thumb is that an average Pygmy doe should give about ½ gallon per day at the peak of her lactation. A gallon of average fat milk weighs 8.6#, but Pygmy milk weighs 8 lbs. because fat is lighter.

For a steady supply of milk throughout the year, two does can be bred at different times. Many people, though, prefer to have two months off during the does' dry period before their next kidding.

When a doe freshens (comes into milk at kidding), she doesn't produce as much as she will later because her kids don't need much yet. Production increases for two months or so and slowly declines. This lactation curve matches kid growth and decreasing reliance on milk. Kids are nutritionally self-sufficient at about 10 weeks old. In other words, most does

produce milk at the rate the kids need it. Lactations persistence means that a good milker's production stays at its peak for a long time.

Milking takes dedication. It is very important to milk twice daily at 12-hour intervals to maintain production. When milk is in the udder for 18 hours, the milk producing cells (alveoli) begin to shut down due to pressure. Once this production is lost in a lactation, it cannot be regained. As we all know, goats definitely like their routine, so regular milking times keep them happy.

Man can be infected with a few diseases passed in the milk of infected animals. Tests are available to identify disease carriers. Chances are that if a doe had any of them, you wouldn't want her on your farm, much less to drink her milk. Diseases most often mentioned as zoonoses are brucellosis, tuberculosis and Q-fever, though there are others. They are uncommon, but you should be aware of them.

Anything you put into your milker via injection or orally (eating, drinking, drenching) will come out in her milk. Each drug approved for use in goats has a withholding time on the label. Your veterinarian can advise you about these and extra-label drugs. Withholding means throwing out the milk of treated does (and observing slaughter times) for a certain number of days, weeks or months following drug use. Such milk may usually be frozen and for the next batch of kids.

It is doubtful that you will milk enough Pygmy does to have excess for sale. Laws regarding fluid milk sales vary by state. In some states it is illegal to sell raw (unpasteurized) milk for human consumption without a Grade A dairy license. Legal liabilities extend to raw milk sales or sometimes even in serving it in your own home. Mishaps involving contaminated raw milk make the news from time to time, and those cases emphasize this point. You are legally liable if your goat milk is contaminated and makes anyone sick. Most states heavily regulate the sale of milk, with sale defined as "dispensing, giving, delivery, serving or any other supplying..." Look into your state laws before serving raw milk.

There are many good reasons to milk a Pygmy goat or two. It is very enjoyable. After putting so much time, effort and care into your goats, they have few opportunities as unique as this to give you in return.

## **Good Milking Procedures** **Maxine Kinne**

Dairy guidelines proven to maintain udder integrity and milk quality start with establishing a routine milking order. Does get used to a certain order and production suffers if even the smallest things change.

### **Milking Order**

1. Older does
2. First fresheners
3. Does with high somatic cell counts (if known)
4. Sick does without active mastitis
5. Does with mastitis

Does with mastitis are always milked last to prevent spreading bacteria to the next udder. In my experience, mastitis is rare in pygmies because they have relatively good udder attachments and small teat orifices. Sanitation management is very important in avoiding mastitis.

Somatic cells fight bacteria inside the udder that cause mastitis. There are always a certain number of somatic cells in the milk, but there are very many during any degree of mastitis. Lab testing can detect somatic cells in milk. On the farm, the California Mastitis Test is very reliable and can be used when you milk.

Does milk more willingly if they are trained to the stanchion first. Get them used to the stanchion by feeding them there.

Wash and dry your hands before you are going to milk. It is unnecessary to wash the entire udder before milking, but washing and drying each teat helps prevent mastitis. Wash each teat with a separate paper towel and discard. Dry each teat with a separate paper towel and discard. Never reuse a towel. (Predipping and drying each one with a separate paper towel instead of washing can also sanitize Teats.)

Udder preparation relaxes the doe so she will let her milk down. Milk let-down is due to the oxytocin response. When a doe is excited or upset, she releases adrenaline that cancels oxytocin, and it is impossible for her to give milk until the adrenaline is used up. When it is, it takes another few minutes of preparation to elicit another oxytocin response. Loud, unusual noise or actions evoke fright and adrenaline, so a calm routine is always required. Massage the udder for 30 seconds or so after washing to feel udder texture. Lumps, hot spots or injuries may be found at this time.

Examine the few streams of milk from each teat for abnormalities. The dark, perforated insert in a strip cup lets milk through while retaining clots or strings. The Pygmy doe usually gives a small stream of milk, and a clean, dark cloth or a

dark-colored dish works well. Check the milk from each teat at each milking. The first few streams of milk contain the most bacteria, so it is a good idea to discard this anyway.

Try to completely empty the udder within five minutes after udder preparation - oxytocin response is the greatest during those five minutes. Grasp the base of each teat just below the udder floor with your thumb, index and middle fingers. Delicate tissue may be injured if you squeeze any part of the udder. Milk in the teat cistern is trapped when you squeeze the base of the teat with your thumb and index finger. Expel the milk using all 3 fingers, your middle finger following the index finger in gentle squeezing. Pulling on the teat or sliding your fingers down it may injure udder or teat tissue. Alternate the streams, left and right. Developing coordination takes time - don't give up. Your hands may tire and cramp, but it gets easier as you build up milking muscles and coordination. At the end of the milking, massage the udder to release the last of the milk and milk that out.

After milking, dip the entire length of each teat with a good teat dip to kill bacteria at the orifice and help close the orifices. Teat dipping is very important. The dairyman I heard at a seminar said, "If I had only one cow, and she had only one teat, I would dip that teat after each and every milking!"

If you have to reconstitute a dip, it is important to make it the proper strength. Strong solutions can damage the skin, and it is ineffective if it is too weak. Follow the label directions. Ideally, fresh teat dip is used on each teat at each milking. Contaminated teat dip is no longer effective and may harbor bacteria. I use a small glass jar with a 1"-deep plastic lid. I snap off the lid, fill it about 3/4 full, coat each teat, and discard the used portion. Besides the quality of the dip, good coverage is the most important part of dipping. A drop of teat dip should be visible on the end of each teat. (Fight-Bac teat spray also works very well instead of dipping.) After dipping or spraying, keep the doe standing for 15 minutes or so, maybe with fresh hay in the manger. If she lies down, the teat dip won't work as well as it should.

Milk is a delicate product and should be filtered immediately after milking to remove hair and other contaminants. Then it should be cooled as quickly as possible. Milk filters are available at feed stores and catalog suppliers. Strain into a glass jar and refrigerate immediately.

Milking sounds complex, but it is very easy. Having the right equipment is a big help. Good habits in procedure and technique are important in the long run, both for your enjoyment of the milking process and maintaining the health of your does.

## **The Qualities of Pygmy Goat Milk** **Maxine Kinne**

Hopefully, you will one day decide to take up the pleasurable task of milking. When you do, there are some fundamentals to understand about the quality of Pygmy goat milk and what makes it different than other types of goat milk.

Milk traditionally weighs 8.6 lbs per gallon. Pygmy goat milk only weighs 8 lbs per gallon, because it has a significantly higher butterfat content than the milk of most other breeds. (Nubians come the closest to the Pygmy's fat content.)

Why is high butterfat content a good quality in milk? For one thing, it helps the milk resist off flavors due to a doe's diet. Strong flavored plants may impart their flavor to milk, especially when they are consumed within a few hours of milking. Higher fat content also extends the shelf life of milk. With very good milking technique and milk handling, Pygmy milk can retain its excellent flavor for about two weeks.

Fat, of course, is what gives many foods a desirable taste because it is rich and sweet. When I dried off my does after two solid years of milking and bought 3.8% cow milk from the store, I had to spike it with whipping cream to combat the flat, watery taste! Many health-conscious people now avoid fat. But since Pygmy milk separates fairly readily, unlike the naturally homogenized nature of dairy goat milk, most of it can be skimmed off.

The NPGA membership brochure lists the butterfat percentage at 6% to 9%. My milkers ranged from 4.5% to 11.75%; and average was about 6%. Fat percentages are tied to the total quantity of milk a doe gives. Does give about the same amount of butterfat all the time. Less milk is produced in early and late lactation, but the butterfat percentage remains stable. Thus, its percentage of the total yield is higher when the doe gives less milk. Butterfat is given at the end of the milking process, so it is very important to milk each doe out completely.

A study comparing minerals in the milk of dairy goats and Pygmies (West African Dwarf Goats) in *The Third International Conference on Goat Production and Disease, 1979*, found that Pygmy milk tested 65% higher in calcium, 19% higher in phosphorus, 75% higher in potassium, 26% higher in iron, and 10% higher in copper. It was 21% lower in sodium, 13% lower in magnesium and 40% lower in chlorine. Alpine and Saanen results were averaged for the dairy milks. This study supports another one cited by Alice Hall. These percentages mean that Pygmy goat milk is higher in things that are good for you and lower in things that are not.

As a meat breed, the Pygmy is more heavily boned and grows rapidly. They need a good ration of calcium and phosphorus, so heavy-boned mothers have sufficient calcium availability to kids. High milk fat content serves as energy for fast growth.

Some people who have bottle fed many different kinds of milk replacer complain about unthrifty, slow-growing, light-boned kids. This has not been true for the many kids I have raised on Pygmy milk or 3.8% cow milk from the grocery store. I believe that critical management factors like under- and overfeeding milk replacer, internal parasites and general sanitation, deserves a greater amount of blame than their choice of replacer.