

WHAT IS A HEALTHY GOAT?  
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A normal dairy goat is lively, capricious, hardy, and resistant to disease. Because of this resistance and because the dairy goat is not as economically important to modern agriculture in the United States as are other livestock species, a complete study of dairy goat health and disease has not been done.

The herdsman is all-important in the health of his dairy goat herd. He must be able to do something about it. He will not be able to recognize illness in his animals unless he knows what a well dairy goat is.

There are individual differences between dairy goats, but generally the normal dairy goat is lively and gregarious. A herdsman must know each individual animal because any change in attitude could be an indication of disease or some other abnormality, even if it is something as natural as heat. It is just as abnormal for a normally antisocial goat to suddenly show friendliness as it is for a normally friendly goat to become antisocial.

Although the dairy goat tends to stay well and does not yield easily to attacks of disease, when she does yield, her tendency often is to give up. For that reason, it is important for the herdsman to do all he can to prevent disease and to learn how to recognize disease so he can treat it fast.

#### **The Nature of the Goat**

The dairy goat, one of the earliest domesticated milk-giving animals, is in the genus *Capra*. The very name indicates her character—bright eyes, lively, gregarious, and contented. She eats well, allowing for the fact that she dislikes filth and will avoid soiled food if she has a choice.

Dairy goats are browsers by nature—that is they are equipped to eat woody material such as leaves, twigs, bark, shrubs, rather than simply the grasses that grazers eat. Both their digestive systems and their anatomy (sloped rump) make standing on hind legs and eating cellulose possible. This tendency to basic browsing shows up in the eating preferences of dairy goats. They would rather have to stretch and reach for their food, and they seldom enjoy eating anything less than 12 inches off the ground (for adult, full-sized animals, not kids, Nigerians or Pygmies).

#### **Herdsman Recognizing Illness**

In recognizing a sick goat, the herdsman should look for changes in appetite, attitude, stance, gait, or production. If changes are noticed in any of these things, the abnormalities in temperature, respiration, pulse, rumination, blood pressure, and maybe even blood count should be checked.

In addition, evidence of abnormal body odors or discharges should be noted, and changes in condition of body, skin, or hair should be checked further. Eyes are especially important. If they become dull instead of bright, have pale membranes instead of pink, or are sunken instead of full, something will have to be done.

The herdsman has to know his individual animals to notice changes in attitude, appetite, and production, but some other normals are easier to fix as averages.

The stance of the dairy goat should be on squarely set, widely spaced, strong, straight legs. If any of the legs are being favored, if any of the pasterns suddenly break, or if any of the joints start to swell, the herdsman knows something is wrong.

The gait of the dairy goat should be smooth, graceful, and well-coordinated. If it becomes jerky, uneven, or uncoordinated, the herdsman will have to look to find what is causing the ungainly gait.

The normal temperature of the dairy goat is about 102.6 degrees F, with normal range from 101 to 104 degrees F being acceptable. The temperature, which is taken rectally, is the first thing a herdsman should check when he sees abnormal symptoms that may indicate disease. The thermometer is cleansed and shaken down low enough to be well below the normal dairy goat temperature range. The thermometer may be lubricated with KY or petroleum jelly, and it probably should be when inserted into a kid. The thermometer is inserted gently into the anus (rectum), making sure it is not imbedded in fecal material, which would make the reading too low. If necessary, the lower end of the bowel should be cleaned out manually before the thermometer is inserted. The thermometer should be left in the body a minute or so before it is withdrawn and read, and it should be cleaned before and after each use.

Normal respiration of the dairy goat is 15 to 20 breaths per minute, with some veterinarians saying it can go as high as 50 without being abnormal. It is easy to check respiration rate by holding a mirror or even a hand in front of the nostrils and counting the number of time the mirror clouds up in a minute. Polypnea, or panting up to 150 breaths per minute is not uncommon, and it may not be related to environmental temperature. Respiration should be easy and clear. Sounds of congestion, along with rapid, labored, slow, or noisy respiration, should definitely be reported to the veterinarian along with other symptoms.

The best way to detect abnormal sounds in respiration is with a stethoscope, although many herdsman simply lay their ear against the ribs. Either way, the lungs should be checked on both sides, fore and rear, high and low. The left lung has three lobes, and the right lung has two. If the stethoscope is not moved, congestion in one lobe could be overlooked.

Pulse rate is important—64-80 beats per minute is normal for a dairy goat. Some people say 50-115, and the average is around 75. Pulse should be steady, strong, and even. It is easy to take the pulse by placing the hand over the heart at the floor of the chest or by putting the fingers (never the thumb because it has its own pulse) on a carotid artery under the jaw in the throat, on the femoral artery on the inside of the thigh, the coccidial artery under the tail, the mammary arteries in front of the udder, or the submaxillary artery on the underside of the jaw. Fingers should be used to palpate the arteries. The thumb will not give an accurate reading because it has its own pulse that conflicts with the count of the pulse being taken.

Rumination, the activity of the rumen, the first and largest compartment of the goat's stomach, is easy to check. The rumen rotates about twice a minute, and that can be seen by watching the left side of the abdomen. If it is not visible, a little pressure on the left side of the abdomen will reveal any activity inside. If no rumen activity is present, the animal will also stop eructation (cud chewing).

Any clear, cloudy, or bloody discharge from the eye, ear, nose, anus, vagina, or any other body opening, especially if the discharges have an unpleasant odor to them, must be reported to the veterinarian with other symptoms.

Any weight loss, whether it is sudden or gradual, is a suspicious symptom. If the normally smooth, glossy, slick hair coat becomes rough and coarse, a disease may be in progress. Normal skin is soft, velvety, and smooth. If it becomes scaly, rough, tight, or dry, this is a symptom to note.

The fecal droppings should be round, firm, and dry. If they become moist, soft, or runny, or if they contain blood, mucus, or bad odor, this symptom should also be told to the veterinarian.

It is important for the herdsman to know the production potential of his animals. Different does have different production tendencies. A record of 1500 pounds of milk in 305 days or ten months is considered acceptable. This is an average of five pounds (2.5 quarts) a day. Some does hit and hold that average for nearly the full ten months. Others peak in 30 to 90 days after freshening and drop off slowly. Still others will hit a fast peak and drop rapidly until they are dry in seven or eight months.

If the owner knows the genetic production background of his does, he will know what kind of production level to expect from them, and he will be more likely to recognize abnormalities to production. In addition to sudden drops in production, the quality of milk should also be noted. Flakes, strings, chunks, or blood should be considered evidence to report to the veterinarian.

Dehydration is often a consideration in a sick goat. One of the first signs of dehydration is that the eyes look sunken instead of full. If this condition occurs, steps to counteract dehydration should be taken immediately. Dehydration usually accompanies high temperatures or scours (diarrhea).

#### **What a Breeder should tell a Veterinarian**

When a herdsman contacts a veterinarian, he should give a resume' of all the symptoms he noticed. The veterinarian should be told of any changes in stance or gait; changes in milk quality or production; changes in attitude and appetite; changes in condition of skin, hair, or weight; changes in temperature—whether it is too high or too low; lack of or slowing of rumination; condition of the stool; any abnormal bodily discharges; or anything the breeder sees as abnormal. The veterinarian should be told if the pulse is strong or weak, fast or slow. He should know how long the symptoms have been in effect and what treatments have already been used.

Breeder and owner diagnosis is hazardous because the layman doesn't have enough information on enough diseases or treatments even if he has access to veterinary medical books, to do an accurate job. Wholesale use of antibiotics or other treatments as a preventive measure or a method to head off suspected diseases is also hazardous. Pathogens (disease-causing organisms) do acquire immunity to antibiotics. Medications become less and less effective when they are used in large volumes or too frequently until, when they are needed badly, they do no good at all. Use of antibiotics also interferes with results of blood cultures, so they should not be given before a blood sample is taken.

Veterinarians can use new and different medications to help prevent microorganism immunity from occurring, and with the dissemination of more information, the unwillingness of some veterinarians to work with goats will diminish. It is ideal for the herdsman and the veterinarian to form a team to protect the health of the herd. Neither one can do it alone.

Blood pressure is difficult to check in a dairy goat, but its normal blood pressure is about the same as for a human—120/80. Obviously the blood pressure is too high if the blood vessels in the eye break.

Anemia is as important indication of disease, and again, it is not difficult to determine. The membranes of the healthy animal should be bright pink. The easiest place to check the membrane color is in the lower eyelid or in the vulva of the doe. If the membrane is pale pink or white (anemia), bluish (lack of oxygen), orangy or yellowish (jaundice), the symptoms should be reported to the veterinarian, who can do a blood count.

#### **Veterinarian Checking Wellness**

The normal erythrocyte (red blood cell) count of the dairy goat is 13,800,000 per ml. of blood. A range of eight million to 18 million may be expected. The red cells of the goat are very small, which is

why the count is so high. The high red cell count is also an indication of the endurance of the dairy goat. Normals for the goat blood are found in *Schalm's Veterinary Hematology*.

Red blood cells contain hemoglobin, which makes it possible for the blood to carry oxygen to body cells. The normal hemoglobin content of the red cells of the goat is about 4.1 mg. per 1000 cells, or 13 grams per ml. of blood.

The normal white cell count of the goat is 7,400 to 8,940 cells per ml. of blood. This is a high white cell count, and it indicates the good disease resistance of the dairy goat. The white cell count is broken down as follows: 65-70% neutrophils, 26% lymphocytes, 3-4% eosinophils, 0.5% basophils, and 2-8% monocytes. White blood cells are also called leukocytes, and they are important in fighting disease.

Blood sugar is important, and the dairy goat usually has 43-45 mg. per ml. of blood. The packed cell volume of normal goat blood is said to be 22-38. Mean corpuscular hemoglobin concentration is 30-35, and the sedimentation rate in 24 hours is only two or three.

Apparently electrocardiogram readings, which to date have only been used in research, have not been conclusive. Rate and rhythm QRS patterns have not been established, since there is so much variance between goats.

Herdsmen and veterinarians need to establish strong communication skills between them so they can work together for the good health of the entire herd. They should be willing to listen to one another without discounting the other's viewpoint or becoming defensive when their opinions are questioned. Both want a healthy herd, and laying aside personal egos is one way to accomplish that.