

Hoof care for sheep and goats

By STOCKADE Brands

Hoof health probably isn't a top worry for most sheep and goat owners. But did you know that lameness reduces the overall health and profitability of your herd? Lameness does not travel freely to water and forage and thus have lower feed intakes than animals with healthy hooves. This translates into less milk production, slower growth rates and even diminished conception rates. Lameness does not actively seek out ewes and does in heat and may not breed even if they do mount. Fortunately, most lameness can be significantly reduced or eliminated with proper management. Lameness is an issue for both the commercial and the pet owner.

Proper Hoof Trimming

Many foot and leg problems are caused by a lack of trimming or improper trimming techniques. Trimming hooves is a simple task that can be easily learned, however, the hard part comes in committing oneself to follow through in a timely manner. The amount of time between trimmings depends on many factors, such as type of terrain, age, level of activity, nutritional level and even breed. Goats and sheep raised in relative confinement and on small acreages may require more frequent trimmings than animals raised in vast pastures. Generally, foot trimming should be done on an as needed basis. Once you become familiar with how the hoof is supposed to look, this will become obvious to you. A properly trimmed hoof should look like that of a newborn.

The first step in trimming is to clean off the foot, so that it is free of dirt, stones, rot and manure. Besides being easier to see and more pleasant to handle, a clean foot will not dull a knife's edge as fast as a dirty foot. The next step is to remove any rim or excess growth from the walls of the foot. The wall may have grown and folded back under the foot. In this case some of the overlapped toe will have to be cut back so that the rim of the wall can be removed properly. The trimming of the wall and toe should be done with the shears, while the heel and sole can best be cut with a hoof knife. When using a hoof knife, always cut away from the animal and yourself. The sole should be trimmed down in thin slices until the heel; sole and wall form a flat surface upon which the animal should stand at a correct angle of about 45°. Stop trimming as soon as the sole begins to appear a pinkish color. Any further trimming goes into the "quick" and the foot will begin to bleed. In many cases, the weight of the goat or sheep itself will put pressure on the cut and stop any bleeding.

If the animal's feet have been neglected for some time, and the toes are very long it is usually not practical to try to bring them back to normal in one trimming. It is generally better to trim the feet a little and then gradually bring them back to proper shape, size and angle with frequent trimmings. A general rule to keep in mind about trimming feet is that the hoof's hairline should be almost parallel to the ground and the more often trimming is done the less time and energy per trimming it takes, and the more well behaved the animals will be during the trimming. Also, there is a smaller chance of developing foot problems such as hoof rot if the owner is working with the sheep or goat's feet regularly and frequently.

Foot Rot and Lameness

Lameness is commonly caused by the development of foot rot. This disease is caused by a mixed infection of two bacteria, *Fusobacterium necrophorum* and *Bacteroides nodosus*, which are brought into an area by way of contaminated feet. Wet, muddy areas and filth increase the possibility of disease outbreaks. Also, injuries to the feet enhance foot rot transmission. Foot rot doesn't usually occur when the soil temperature is less than 40° F (4.5° C). Generally, this disease starts as an inflammation between the toes of the foot, later spreading under the horn. As it continues, it causes a separation between horn and skin, causing varying degrees of pain and lameness.

The foot rot bacteria require an anaerobic (without oxygen) environment to survive. Therefore, in order to correct this problem, the hoof must be trimmed back to the point of separation so that the area will be exposed to the air. This also rids the hoof of a potential "pocket" in which dirt and manure could pack to form an anaerobic environment. The foot is then treated with an antibiotic spray, or soaked in a 10% formalin, copper sulfate or zinc sulfate solution and kept off contaminated fields or muddy yards for at least two weeks to avoid reinfection. A walk-through foot bath filled with saturated copper sulfate or zinc sulfate solution will also aid in maintaining sound, healthy feet; provided the foot bath is kept free of contamination from manure, rain

and runoff. Prevention of foot rot includes minimizing filth and wet, muddy areas in pens and pastures; proper nutrition and regular and proper hoof trimming.

Proper Nutrition for Improved Hoof Health

Proper nutrition is essential for healthy, strong hooves. Nutrition is also one of the more easily manipulated factors affecting both infectious and non-infectious causes of lameness. Amount grain and/or roughages in the diet affect development of lameness. Additionally, proper trace mineral nutrition is critical for maintaining sound hooves.

Grain and Hoof Health

Grains (corn, barley, oats, etc.) are feedstuffs high in energy content. Energy is needed to drive all metabolic actions in the body, including hoof growth. However, feeding excess energy can create hoof and lameness problems. Low roughage diets or sudden access to a large amount of high-energy feed can cause laminitis (founder) in sheep or goats resulting in disrupted blood flow in the hooves. In severe cases, laminitis causes severe lameness, fever and feet that are hot to the touch. Animals may be observed, “walking” on their knees. Sheep or goats exhibiting laminitis should receive veterinary attention. A second, incendiary relationship between grain (energy) and lameness relates to obesity. Sheep or goats on high grain diets overwhelmingly tend to become obese. Obesity results in increased pressure on the hooves and joints and can lead to chronic lameness. So the take home message is to limit the amount of high-energy and/or low roughage feeds in the diet for long term hoof health.

Trace Minerals and Hoof Integrity

Several trace minerals play key roles in the growth and maintenance of healthy hooves, but zinc, copper and selenium are especially important. **Zinc** plays a role in the synthesis and maturation of keratin (claw horn tissue) and is also vital for rapid wound healing, epithelial tissue repair and cellular integrity. **Selenium** acts as an antioxidant to prevent and repair cellular damage in the hooves. Many soil types across the United States tend to be moderately to severely deficient in all three of these minerals.

Copper also plays an important role in the formation of strong horn and connective tissue in the hoof. While sheep are sensitive to excess copper, goats have a relatively high copper requirements. Goats suffering from copper deficiency are more susceptible to hoof cracks and foot rot. Due to the slow growth of hooves, it is critical that a properly balanced mineral supplement for goats be provided year-round to promote growth and maintenance of healthy, sound hooves.

In summary, lameness will reduce overall health and productivity within your herd or flock whether you are a commercial owner or a pet owner. Fortunately, most causes of lameness can be corrected with proper management. Proper management techniques that help to reduce lameness include: frequent, properly performed hoof trimming, elimination of wet, muddy areas in pens and proper nutrition.

STOCKADE® offers several options for sheep and goat owners including sheep & goat products with no added copper (when utilizing these, offer a copper bolus to goats) or the Super line of supplements including copper that are labeled for goats as well as cattle and horses.

All STOCKADE supplement products deliver essential vitamins and minerals necessary for proper health and nutrition. Ask for **STOCKADE** by name at your local feed store or view a complete product listing online and learn more about each supplement.