



Small Ruminant Hoof Health

By Karen Lewis, ASPIRE Intern, and Ashley K. Edwards, Ph.D., Extension Livestock Specialist.

Introduction

It is inevitable that most small ruminant producers will encounter hoof health problems, so taking measures to prevent these problems and maintaining good hoof health is vital for sheep and goat herds to thrive. Louisiana's warm, wet climate presents unique obstacles to livestock that may be difficult to overcome, but practicing good hoof care management, producers can improve overall herd health, longevity and production.

Causes

There are two main bacteria that cause persistent hoof health problems in many small ruminant herds – *Fusobacterium necrophorum* and *Dichelobacter nodosus*. These bacteria are found in the soil and enter through cuts or cracks in the skin or hoof of the animal. The dark, warm area between the toes of sheep and goats creates the perfect environment for these bacteria to proliferate. *F. necrophorum* causes what is known as “foot scald,” which causes the flesh between the toes to become red and inflamed. In sheep, foot scald is also known as Ovine Interdigital Dermatitis. If not treated in a timely manner, foot scald has the potential to become more severe and develop into hoof rot. Caused by *D. nodosus*, hoof rot can cause the hoof to rot away and produce an unpleasant odor. While *D. nodosus* does not always infect every animal, it often follows an infection with *F. necrophorum*. Once the secondary infection has been established, it can continue to spread to the lower parts of the leg and inflict more damage. Lameness of varying severity is a sign of infection.

Several factors influence the hoof health of sheep and goat herds. Genetics play a significant role in small ruminant hoof health, meaning some animals are more prone to interdigital infections than others. Genetics can also determine the growth rate of hooves, which can influence infections. The bacteria that cause foot scald and hoof rot like to reside in the folds of excess hoof material, so hooves that grow faster may hinder producers by requiring additional time and effort to trim more often. Nutrition is another factor that affects hoof health. Many producers have observed more hoof growth when their animals are fed a grain-based diet.



Figure 1. A sheep hoof with hoof rot on one toe.
Photo by Ashley K. Edwards

The lack of necessary vitamins and minerals can also cause issues in small ruminant hooves. Producers will especially want to pay close attention to their herd's hooves during the warm, wet months when the conditions are ideal for bacteria to thrive and hooves to grow.

Treatment

Treatments for hoof rot should include trimming and cleaning the infected hoof, utilizing approved antibiotics, and exposing the hoof to air. The bacteria causing these infections are anaerobic, meaning they do not grow in the presence of oxygen. Exposing the infected hoof to air slows the growth of the bacteria, so do not wrap the hooves as it could cause the bacteria to grow faster. It is important to work in coordination with a local veterinarian to devise a plan for treating hoof rot in your small ruminant herd. Some

may prescribe topical treatments to be used in conjunction with antibiotics. To prevent the spread of bacteria, be sure to disinfect all tools and equipment used on animals known to have hoof rot. After treatment, it is important to monitor your herd and take notes of any improvements or recurring infections. If hoof rot is a persistent problem in specific animals, it may be beneficial to the overall health of your herd to remove those individuals from the herd and prevent the spread of undesirable genetics.

Prevention

Making an effort to prevent hoof infections is essential to the health of your herd. Keeping environments clean and dry is important in decreasing the growth of bacteria. In areas, like Louisiana, where rain is inevitable, it may be beneficial to provide raised structures for sheep and goats to stand on for temporary relief from water and mud. It is important to regularly trim your animals' hooves to prevent them from overgrowing. The size of your small ruminant herd may influence the frequency with which animals receive hoof trimming. Producers with small operations

may be able look at each animal's hooves more often, while large scale producers may not have the ability to assess each animal every day. On average, it is suggested that small ruminants receive hoof trimmings every three months, but depending on weather conditions, it may be beneficial to increase or decrease this frequency. In warm, humid environments, hooves tend to grow faster and are not naturally worn. In cooler and dryer environments with rugged terrain, hoof trimming is performed less frequently due to the natural wear of the hooves.

Trimming Hooves

The tools that are needed to trim the hooves of small ruminants are listed below:

- Hoof trimmers
- Blood stop powder (optional)
- Hoof grinder (optional)

The same techniques of trimming hooves can be applied to both sheep and goats, although the restraining methods may be different. Goats can be placed on a stand

with their head secure, or their halter can be tied to a fence to enable you to push the side of their body against it. Sheep can be restrained using the same methods, or they can be placed in the shearing position or in a restraining chair. Each of these methods allow the animal to be comfortably secured and reduce possible injury to both the animal and person.

A general set of steps to trimming hooves are as follows:

1. Restrain your animal as noted above.
2. Hold one leg below the knee, with fingers on the pastern and bend the leg back.
3. Scrape off any dirt with closed trimmers.
4. Trim the outer wall of hooves until you see the white hoof wall.
5. Trim the inner hoof wall.
6. The inner and outer hoof wall should be level with the sole.
7. Gently cut the soft heel until it is level with the sole.
8. When finished, the hoof should be flat and parallel to the hair line.



*Figure 2. A goat hoof before and after trimming.
Photos by Ashley K. Edwards*

Important Notes

If pink flesh begins to show on the sole of the hoof, this indicates that you are cutting close to the blood vessels. Stop trimming and move to the next hoof. Further, if the hoof begins to bleed, carefully apply blood stop powder to the cut. Wait for it to stop the bleeding, and do not continue to trim the hoof.

Show Tip

Animals being exhibited in livestock shows need to be in the best condition possible. Be sure to trim their hooves several days before a show to ensure any potential sore hooves have plenty of time to heal. Sheep and goats should walk level and evenly on each of their hooves.

Conclusion

Hoof health has the potential to increase or decrease success in small ruminant herds. Producers should be able to recognize signs of hoof infections in order to prevent the development of further damage to the individual animal or the herd as a whole. To maximize production, careful monitoring and management practices must be put in place to maintain sufficient hoof health.

References

- Barkley, A. (2021, September 9). Cornell Cooperative Extension Southwest New York Dairy, Livestock & field crops program. Foot Rot in Small Ruminants - Southwest New York Dairy, Livestock & Field Crops Program - Cornell University - Cornell Cooperative Extension. <https://swnydlfc.cce.cornell.edu/submission.php?id=1381&crumb=livestock%7C10>
- Brewer, L. M., Fernandez, D., & Ward, H. (n.d.). FSA9624 Hoof Rot and Hoof Scald in Sheep and Goats. <https://www.uaex.uada.edu/publications/pdf/fsa9624.pdf>
- Dacey, J., & Toledo, I. (2016). Hoof trimming. https://animal.ifas.ufl.edu/media/animalifasufledu/small-ruminant-website/fact-sheets/Hoof-Trimming_Factsheet.pdf
- Footrot in Cattle and Sheep (“*Necrotic pododermatitis*”, “*Interdigital necrobacillosis*”, “Foul foot”). K-State College of Veterinary Medicine. (2005, May 11). <https://www.vet.k-state.edu/docs/vhc/farm/ag-practice-updates/footrot.pdf>
- Garman, J. (2021). Trimming Goat Hooves for Overall Health. *Countryside & Small Stock Journal*, 105, 66-68
- Longacre, K. (2004). The goat barn: Trimming hooves. *Countryside & Small Stock Journal*, 88(1), 58-59



Pub. 3930 (online) 7/24

The LSU AgCenter and LSU provide equal opportunities in programs and employment.

Visit our website: www.LSUAgCenter.com