

Hoof Care for Sheep

—Ulf Kintzel

Photos by Author

A recent call from a good customer of mine brought the topic of hoof care back to the forefront. He stated, “I believe I have hoof rot,” a disease I have been successfully avoiding for almost twenty years while experiencing a considerable amount of paranoia that my sheep might catch it. Having to recall all I knew about cutting hooves and foot rot treatment, I figured I might as well put all of it in an article while I am at it. Let’s start by describing standard hoof care first.

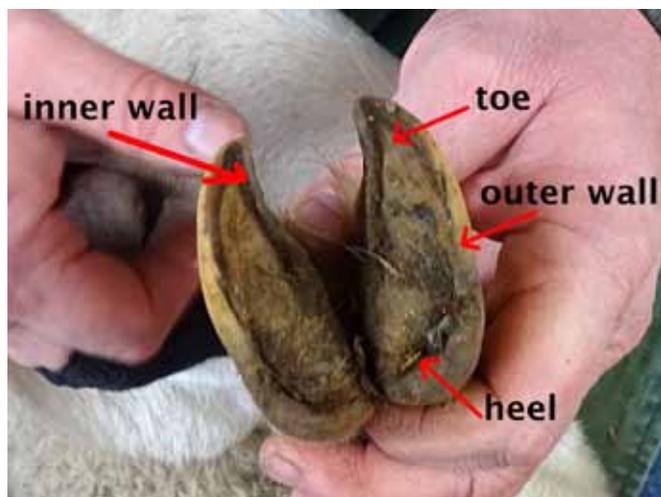
Sheep’s hooves grow, and unless they are used up by rocky and stony soils or frequent travel on paved roads, they need to be trimmed. When sheep limp, their hooves need to be trimmed too, and the cause for the limp has to be found and eliminated. Hoof care for sheep is one of the more challenging tasks for people raising sheep. Perhaps this is why in my view it is also one of the most neglected ones. Cutting hooves, especially when sheep have foot rot, takes years of experience before mastering this task. In addition, it is not easy finding someone who will teach you. Here is my little contribution in helping those who want to learn how to cut hooves.

Let’s start with the anatomy of the hoof: Sheep have cloven hooves, meaning each hoof is split into two digits. The parts of a hoof are named in one of the pictures for this article. This picture will help illustrate my description of how to cut a hoof.

Before you can get the hoof, you need to first catch

the sheep. I find the best way to catch it is with a leg crook when the sheep stand together, i.e. in a pen. The leg crook I use is the blue metal one from Premier One Supplies* www.premier1supplies.com. You want the sheep that needs to be caught facing and standing with the group of sheep, not facing or moving away from it. You aim with the leg crook at the part of the leg that is right above the heel or hock. Once the sheep is caught, hold the crook UP. I put that in capital letters since I have seen people often wanting to pull the crook back. You will be fighting a struggling sheep. Depending on your strength the sheep now has a good chance of winning. By holding the crook up you will win. (If the group stands tight enough in a pen you can also just grab the sheep with your hands.)

You still aren’t cutting hooves yet. Now you need to set the sheep down. I like to do it by holding the sheep with my left hand underneath the lower jaw while I hold the sheep with my right hand at the upper hind leg, pushing its body against my right leg. Now I turn the head to the right so that the nose is pointing away from me. As I turn the head I gradually step back with my right leg and push the back part down, holding my right hand as described. This will push the sheep on its behind. I use the momentum to lift the front up. Now I put the sheep between my legs with my knees and feet close against the body of the sheep like a good shearer would do. The sheep has to sit in a good angle. If it sits too steep, it will struggle. If it leans too far back, it will struggle. If you have knees and/or feet standing too far away from the body,



These are the parts of the two digits of a cloven sheep’s hoof.



When using a leg crook make sure you lift the crook up and don’t pull it back after you caught the sheep.

it will struggle. If your sheep struggles you might not want to waste your energy by calling the sheep stupid or other names. Instead, examine its position as well as your leg position. If you are left handed you just have to picture the mirror image of the above description.

Now you can cut the hooves. Your left hand will be holding the sheep's hoof. Your right hand will use the clipper and/or knife. There are various hoof clippers on the market, offered by various sheep equipment companies as well as Amazon. The prices vary between under \$20 to well above \$30. Some trimmers have serrated blades, which I have not used. In any event, you want to buy a small handy hand clipper and not a big bulky one. The knife should have enough length; small knives won't do. My knives are about four inches long when closed. My favorite knife is made by Schrade and has three blades, which is very handy. It is called "Oldtimer" which fits me well), and costs under \$20. No matter what knife you use though, make sure it is sharp, very sharp. A dull knife may cut the bow on your birthday gift wrapping, but it surely won't cut hooves.

When trimming a hoof, the toe, both the inside and outside wall, and at times the heel have to be cut back. The functionality of the hoof should be left intact. A hoof should not be cut back so that much that soft epidermis or tissue are exposed and the hoof starts bleeding. Those who have cut hooves know this is not always that easy. A good way to avoid it is to cut back these aforementioned parts in stages. When the white or even pink parts of the hoof are reached, one should stop immediately. Over time, one will get a feeling how far to cut back. However, individual hooves can differ greatly. Especially dark hooves have far less horn than white hooves. At times you will find that you can keep cutting back the toe of one sheep only to find out on the next sheep that the same first cut was already too much.

Hoof cutters are great to simply cut back hooves that are disease-free, and cutting them is simply a matter of maintenance and good management. However, if the source for a limp needs to be found, one needs to follow up with a knife in order to find cavities with a foreign object like a

stone, thorn, or similar objects. When cutting with a knife you want to watch that your thumb of the hand that is holding the knife is lower than the hoof you are holding in place with that thumb. If it is higher you will find yourself cutting your thumb, especially when the sheep pulls the foot back as you cut. Perhaps this warning will be given in vain. I had my right thumb almost continuously cut during my apprenticeship. However, continuous cuts eventually spoke louder than my supervisor's instructions and warnings ever could. I no longer cut my thumb. When looking for a cavity, which is especially important when dealing with foot rot, one needs to look for discoloration or heat or hardness in the hoof. Oftentimes when one gets close to finding the cause of lameness due to a foreign object, pus will start coming out. The cavity where the horn separated itself from the rest of the hoof needs to be removed.

I have, thanks to our daughter Sarah, created a little video that addresses catching a sheep, sitting it down, and cutting the hooves. I added vaccinating it as a bonus. If you are already on the Internet, you can go to my website: www.whitecloversheepfarm.com click on the link that shares the YouTube video. If you aren't an Internet subscriber you may want to do the same at the library.

I find treatment options, applied after removing objects that caused the sheep to limp, are applied in vain. The same holds true if you cut a hoof a little short and the foot bleeds some. The moment the sheep gets up and puts the foot down the application of whatever you put on is likely to disappear. I also have not found any additional problems later on if the hoof was cut properly. It will just heal. However, treatment is necessary when dealing with foot rot. More about that later on.

Hoof rot or foot rot, two names for the same disease, is a very bad disease to have. And, to paraphrase Shakespeare, "by any other name would smell as rotten." You know you have hoof rot when you smell it. The smell is unmistakable and cannot be erased from your memory. I happen to have worked on so many sheep farms in Germany with sheep that had hoof rot that I learned so much about it by cutting hooves



Sitting a sheep down requires a certain technique.



No matter what knife you use, make sure it is very sharp.

many, many times—enough for two lifetimes. Most of all, I know that I don't want this disease in my sheep. Hoof rot is caused by two anaerobic (without oxygen) bacteria working in synergy. The first is *Fusobacterium necrophorum*. It exists in the digestive tract of a sheep and is always present. The second bacteria are *Bacterioides nodusus*. When the two interact we call it foot rot. Foot rot or hoof rot should not be equated with foot scald. That is a very different hoof disease, which is not nearly as problematic as foot rot.

Ideal conditions for the disease to thrive and spread are warm and humid or wet weather. Dirty conditions like mud also favor the spread of foot rot. The bacteria are said to live in the soil 14 to 21 days. However, scientific papers differ as far as the timeline is concerned, especially when it comes to buildings like barns and sheds with manure in it. It can live longer there.

Foot rot eradication will require that you cut all hooves that are affected as well as those hooves that are overgrown. Overgrown hooves offer many cavities where the bacteria can hide and thrive. Even if sheep with long and overgrown hooves are not affected by foot rot, they may remain latent carriers of the disease. You will need to remove (cut out) all cavities in a surgical manner so that air can reach the affected areas. Any small cavity left will mean that the disease will just continue as though you never touched the hoof at all.

After cutting each hoof it needs to be treated with a zinc sulfate solution. The most widespread one that I came across is "Dr. Naylor Hoof N' Heel." Vet supply companies as well as many farm stores carry it. The 16-ounce or one-pint container comes as a nice squirt-container, which is ideal to apply it to a hoof. After that it can be refilled with the gallon-size Hoof N' Heel or you can buy liquid zinc sulfate—which will be diluted with water—from other sheep supply companies. In my view this is a more economical option. Once applied, you want to wait a little to let it penetrate before you let the sheep go. The sheep that is treated should be marked with a marker designed for sheep on the left ear tip as well as the back of the leg with which the sheep is limping. The time used for that would also

allow for the solution to penetrate.

A foot bath is another method to combat foot rot. However, only after the hooves are cut will the foot bath become truly effective. There are three different ingredients that can be used for a foot bath: zinc sulfate, copper sulfate, or formaldehyde. Of the three I highly recommend zinc sulfate. It can be obtained in a 50-pound bag from companies like Sheepman Supply Company www.sheepman.com. Or it can be purchased as concentrated liquid zinc sulfate (gallon size) from places like Premier One Supplies. It will be mixed into the water that is in the foot bath. You want to add a little dish soap as well. It will help the zinc sulfate to penetrate the hooves. Copper sulfate works well also. However, it stains the wool and is highly corrosive to metal. Formaldehyde or Formalin was the foot bath ingredient of choice 20 and 30 years ago in Germany. It is highly effective. In fact, when you were the one standing next to the chute with the foot bath while the sheep were walking through it and you had sinus problems or a cold, you had a good chance to be cured afterwards. There was one big disadvantage to using formaldehyde. It hardened the hoof after use. If you had some follow-up hoof cutting to do because the hoof rot continued, perhaps because you missed a pocket or the hoof had started bleeding while removing a cavity and you had to stop cutting the hoof, you now had problems cutting the hoof. Environmental concerns also played a role why it has fallen out of favor. While it dissolves in non-toxic molecules in the air, it is highly toxic when it enters surface water. It kills fish. Nevertheless, it still can be purchased from some sheep supply companies like Pipestone Veterinary Services www.pipevet.com.

At this point I'd like to intersperse a little story here to lighten up this rather technical article. When I came to the US I had neither money nor any idea where to get items needed for a sheep farm. I started my own flock with the breed "Whatever-I-Can-Buy-Cheaply-In-The-Neighborhood". My collection of various kinds of sheep also brought me foot rot. Knowing that I had to not just treat my sheep but to eradicate the disease I struggled finding treatments. I could not find



The preferred style of a hoof cutting knife.



I prefer a rather small and straight-edged hoof cutter.

copper sulfate or formaldehyde because I had no knowledge yet of anything in this new country of mine. Zinc sulfate wasn't popular yet 20 years ago. However, my neighbor was an undertaker and I knew that what he used daily at his work contained formaldehyde. I asked him for some of this stuff and he was generous. However, besides formaldehyde these bottles also contained various perfumes. So aside from using these applications to eradicate foot rot my sheep as well as my hands also smelled good. That was a nice trade off, given the rotten and persisting smell of hoof rot.

When the sheep walk through the chute with the foot bath I recommend that everything goes as slowly and as calmly as possible. The longer each sheep stands in the foot bath the better the chance of success. So don't rush it. Don't cause stress. Take all the time you need.

Another strategy for foot rot eradication is culling sheep that are being affected more often than others. In all likelihood it is the same ones that start first when you have another outbreak. Sometimes they may be your best sheep. Yet, they need to be culled anyway. In addition, you can put lime as an anti-bacterial substance on the floor in your barn or on any service where the sheep walk or stand (i.e. barnyard or pens). Also keep in mind that some sheep may be carriers but may not be affected by the disease. Make sure their hooves are cut back as well.

So how do you prevent your sheep from getting foot rot? Know who enters your farm, either by foot or truck. Know who you buy your sheep or goats from. All it takes is one infected animal, one truck that has had infected sheep on it before and didn't clean properly, or one person with dirty boots who has hoof rot in his or her sheep. I go the extra mile avoiding the disease since I know how much of a problem it is. Just recently I came back from a farm with great management but with hoof rot. The shoes were immediately treated with zinc sulfate as well as the foot mat in my truck. The shoes then spent a few weeks in solitary confinement, longer than the bacteria lives. Whenever I have a customer picking up lambs I ask for him or her to wear shoes or boots and clothes not

worn around their animals if they have sheep or goats. If I have doubts about the customer or the vehicle he came with I take extra precaution. I also run the flock through the foot bath as a preventative measure, especially in a wet year like we had in 2015. I also allow any customer who I don't know and who buys sheep from me only very limited access to my farm. That leads at times to a customer being unhappy, but it won't change my mind. Sounds extreme? Perhaps it is, but compare it to the time and money spent as well as the income lost if you do have hoof rot. Besides, I already conceded I am paranoid when it comes to this disease....

Adding a scoop of zinc sulfate to a bag or bucket of minerals may also aid in the prevention of hoof rot, especially when the diet the sheep receive lacks zinc. The same 50-pound bag that I mentioned a few paragraphs before that you use for the preparation of your foot bath can be used for that.

Cutting hooves is one of those difficult tasks to learn that can't be outsourced like other ones can, like shearing or making hay. It is a skill that has to be acquired. Just like any other skill, it takes time and experience to acquire it. There are no easy solutions or quick fixes. Yet, hoof care is important. Picture yourself with a sharp stone in your boot and nobody taking it out for you and you can't. That is how a sheep that limps feels when you don't catch it and try to eliminate the source of the limp. 🐑

*My list of companies as to where to purchase items for hoof care are only suggestions. My list is not complete. In addition, I have no financial interest in or association with any of these companies. However, these are companies where I purchase sheep supplies myself.

Ulf owns and operates White Clover Sheep Farm and breeds and raises grass-fed White Dorper sheep and Kiko goats without any grain feeding and offers breeding stock suitable for grazing. He is a native of Germany and lives in the US since 1995. He farms in the Finger Lakes area in upstate New York. His website address is www.whitecloversheepfarm.com. He can be reached by e-mail at ulf@whitecloversheepfarm.com or by phone at 585-554-3313.



The hoof cutter in action, cutting back the toes.



The hoof should have its utility intact after cutting.