

Let's Talk Tail Docking

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This article was originally written for University of Kentucky's Animal Science Capstone Course instructed by Dr. Roberta Dwyer. With the guidance of Dr. Don Ely, it's been revised for publication in HoofPrint for the viewing of producers. I would like to express my gratitude to Dr. Ely and Dr. Dwyer for all their guidance and assistance. Also, a special thank you to my grandfather, Randall, who was somehow able to turn the screaming, sheep hating toddler into the sheep advocate I am today.

Introduction

Tail docking is a common practice among wool sheep breeds, but not among some hair breeds such as Katahdin, Barbados Blackbelly, and St. Croix. Theoretically, the reason for this difference is because feces and urine do not stick to hair as they stick to wool (Sutherland and Tucker, 2011). When feces and urine accumulate on the hindquarters, it is referred to as "tags" (Sutherland and Tucker, 2011).

There are currently no federal or state regulations regulating tail docking although, a standard has been in place for 75 years: dock at the end of the caudal fold. This is the junction between the 4th and 5th coccygeal vertebrae and approximately one inch from the anus. Despite the reasoning that most producers practice tail docking in sheep to prevent urine and fecal soiling and the incidence of flystrike, some people believe tail docking is an unnecessary, painful procedure that can lead to other health issues such as prolapses. Some individuals dock their sheep's tail next to the body wall for aesthetic purposes for the show ring.

Methods

There are various tail docking methods for producers to consider including rubber ring or elastrator band, docking iron, emasculator, and a combination of methods. For the rubber band method, according to the American Veterinary Medical Association (AVMA), an elastrator is used to place a specialized rubber band on the tail. The band cuts off the blood supply to the tail and after approximately 28 days the tail falls off (AVMA, 2014). The docking iron method is also referred to as a hot blade. The hot blade cuts the tail while also applying heat to cauterize the blood vessels and stop the bleeding (AVMA, 2014). This is a popular method used in other countries other than the United States. The combination of the rubber ring and emasculator is another tail docking method utilized by producers. A rubber ring is placed on the tail to constrict blood flow, and then the emasculator is placed one to two inches below the rubber ring. The emasculator, which has both a crushing and cutting side, then cuts and crushes the tail. This action causes the bottom portion of the tail to fall off. This combination method is utilized at the University of Kentucky Sheep Unit. They have found it particularly effective in

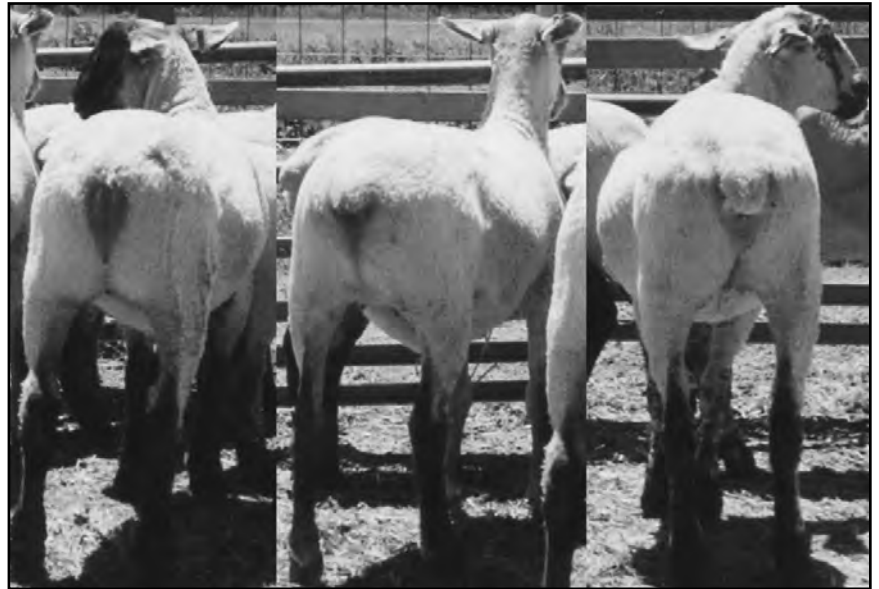


Figure 1: Examples of the three dock lengths on lambs at the University of Wisconsin-Madison. From left to right: Short, Medium, and Long. Retrieved from Thomas, D., D. Waldron, G. Lowe, D. Morrical, H. Meyer, R. High, Y. Berger, D. Clevenger, G. Fogle, and R. Gottfredson. 2003. Length of docked tail and the incidence of rectal prolapse in lambs. Journal of Animal Science 81:2725-2732.

preventing the odor when bloody supply has been cutoff to long tails during hot weather. Currently, it is up to the producer whichever method they choose. Though the elastrator band is the most commonly used method, producers can choose their tail docking method. However, the main issue producers should be considering is the proper location to dock a sheep's tail.

Pros and Cons of Docking

The primary reason behind sheep producers docking the tails of their sheep is to prevent flystrike occurrences. Flystrike is when blowflies lay eggs on the skin of a sheep (Morris, 2000). The eggs develop rapidly into maggots which begin eating the flesh. While burrowing into the animal, the maggots secrete ammonia which is poisonous to the sheep (Sutherland and Tucker, 2011). Sheep may not immediately exhibit the signs of a blowfly infestation; instead, it is several days later when they begin to refuse to graze and weight losses are observed. Even a short period with a flystrike infestation causes loss of appetite and weight loss by an animal.

According to Sutherland and Tucker (2011), tail docking prevents flystrike because it limits the amount of urine and fecal soiling that occurs on the hind end. With the absence of a tail, there is less surface area for feces and urine to stick to. Once an animal has an initial infestation, blowflies become more attracted to that area.

Though tail docking can prevent flystrike, there has been a relationship between the length of a lamb's dock and the occurrence of rectal prolapse. A short dock is described as only one or two coccygeal vertebrae remaining in the tail after docking (Lloyd et

al., 2016). This is accomplished by docking a lamb's tail as close to the body wall as possible and is often performed to give the sheep's rump a more muscular appearance for the show ring (Goodwin et al., 2007). Three lengths of docks are depicted in Figure 1. Lambs with a short dock had a greater incidence rate, 7.8%, of prolapses than lambs with a medium, 2.5 to 3.8 cm dock, or a long dock, 5.0 to 7.8 cm dock in length (Thomas et al., 2003). Short docks cause concern because the lack of tail weakens the muscle surrounding the anus and makes it much easier for the rectum to prolapse. This rectal tissue outside of the body is painful and prevents them from eating and defecating. In this study, the long docks equate to today's standard of docking below the caudal folds. The incidence of prolapse in lambs with long docks was 1.85% while the medium docked lambs had a 3.97% incidence rate of rectal prolapses and the short-docked lambs had a 7.8 incidence rate of rectal prolapses (Thomas et al., 2003).

Several different procedures can be utilized to correct prolapses. The corrective procedure needs to be selected based on the severity of the rectal prolapse. If there are no lacerations in the rectal tissue, a veterinarian can place several sutures at the opening of the anus with umbilical tape (Anderson and Miesner, 2008). It is imperative for a small anal opening to remain to allow the animal to defecate. If the anal tissue is damaged or has become gangrenous, a veterinarian or producer will have to perform an amputation of the necrotic tissue and correct the remaining rectal tissue (Anderson and Miesner, 2008). For some sheep producers, veterinary intervention for a rectal prolapse is not economically feasible. Therefore, they perform a prolapse amputation on the farm utilizing a prolapse ring. The prolapse ring is inserted into the anal opening to the anal sphincter. A rubber ring is placed on an indentation in the prolapse ring to cut off the blood supply. Between seven and ten days after the prolapse ring insertion, the necrotic prolapse falls off and allows the animal to defecate normally (Anderson and Miesner, 2008). Despite the various procedures available to correct a prolapse, they are not always completely effective and rectal prolapse can occur again.

Not only is there a relationship between the short tail dock and the incidence of rectal prolapse, but also with the occurrence of bacterial arthritis (Lloyd et al., 2016). As the tail of the lamb gets shorter, its chance for developing bacterial arthritis increases (Lloyd et al., 2016). This is because shorter docked tails need more time to heal than the long docks (Schroder et al., 2018). Therefore, there's a longer time to allow arthritis causing bacteria, such as *Erysipelothrix rhusiopathiae*, *Streptococcus* spp., and *Streptococcus suis*, to enter the body and the bloodstream (Schroder et al., 2018). When lambs reach the slaughter plant and bacterial arthritis is discovered, monetary loss occurs. Depending on the severity of the bacteria spread, portions of the carcass will have to be trimmed or the entire carcass will be condemned.

Despite the possible benefits of tail docking, there are concerns over the pain it causes to lambs. While docking tails, using the rubber ring, surgical, and combination method, Kent et al. (1993) recorded an increase in cortisol levels when compared to just handling the lambs. Cortisol is a steroid hormone that can be utilized to access stress and pain levels.

A lamb experiencing pain can be observed through cortisol levels as well as its behavior. Some of the ethical issues surrounding the topic of tail docking in sheep include concerns over the it causes to lambs. According to Lomax et al. (2010), after the rubber ring and docking iron procedures, lambs exhibited behaviors indicative of pain, such as abnormal postures, bleating, knee walking,

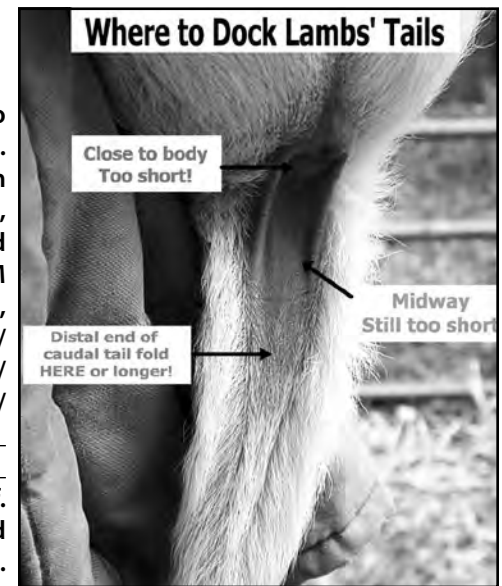


Figure 2: Where to Dock Lambs' Tails.
Retrieved from Faries, F. Dehorning, Castrating, and Docking. Texas A&M Agrilife Extension, March 2011. http://aevm.tamu.edu/files/2011/03/Dehorning_Castrating_and_Docking.pdf. Accessed October 11, 2019.

and lip curling. When lambs undergoing the same tail docking procedures were treated with a local anesthetic, such as Lidocaine, they exhibited less pain-related behaviors (Lomax et al., 2010). The untreated lambs returned to their normal behavior within two hours of the procedure (Lomax et al., 2010). The lambs treated with a local anesthetic returned to their normal behavior within thirty minutes of tail docking (Lomax et al., 2010).

The United States Department of Agriculture (USDA) utilizes the Guide for the Care and Use of Agricultural Animals in Research and Teaching published by the Federation of Animal Science Societies (FASS) to provide producers with recommendations. According to the Guide for the Care and Use of Agricultural Animals in Research and Teaching, "tails should be docked at the distal end of the caudal folds, where the caudal folds on the underside of the tail attach to the tail" as shown in Figure 2 (FASS, 2010). Docking at this tail location decreases the incidence of rectal prolapse and bacterial arthritis while still preventing flystrike (Thomas et al., 2013). It is important to note that rectal prolapses are not solely influenced by tail dock length. Rectal prolapses are also affected by management, nutrition, health, and genetics. Because there is some indication genetics influence the incidence of rectal prolapse, it is suggested that sheep producers cull rams with offspring with a higher rate of prolapses than the flock average (Thomas et al., 2003).

The USDA may need to adopt the Farm Animal Welfare Council's (FAWC) recommendation on preferred methods of tail docking, based on a lamb's age, if flystrike, pain, and bacterial arthritis are to be reduced. FAWC's tail docking method recommendations have been adopted by the American Veterinary Medical Association (AVMA). The FAWC recommends that lambs younger than 1 week of age have their tails docked with a rubber ring while lambs between the ages of 1 and 8 weeks have their tails removed with either a hot docking iron or rubber ring and emasculator. Docking tails of older lambs experience greater pain regardless of the method used. Lambs over eight weeks of age should not be docked. A local anesthetic, such as Lidocaine, can be used when docking older lambs' tails, but it is not recommended because of added expense, labor, and chance for infection.

Enforcement would have to occur in the wool sheep show circuit. This is where most ultrashort and short docks are seen. It has been known that producers surgically remove vertebrae out of a lamb's tail, so the tail is anterior to the anus. This dock is even shorter than

the “short” dock described by Thomas et al. (2003). California, Maryland, Washington, West Virginia, and Wyoming are states with minimum tail length requirements for show sheep (Inskip, 2001). The USDA needs to work with national, state, and local shows, as well as sheep organizations, to ensure tail docking guidelines are being followed. For this effort to be successful, all levels of the showing industry must cooperate.

Summary

Continual education of producers is a key component to successfully implementing tail docking guidelines. It is imperative for veterinarians, extension agents, extension specialists, and other sheep advocates to educate producers to dock tails distal to the caudal folds and with the proper method dependent upon the lamb's age. By ensuring the tails of sheep are docked at the appropriate location with the appropriate technique, and providing adequate education to sheep producers, health issues related to tail docking can be reduced and improve the welfare of sheep across America.

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<p>Morning Session:</p> <ul style="list-style-type: none"> • Cookery: • Goat Meat • Lamb • Dairy • Processing 	<p>Afternoon hands-on workshops:</p> <ul style="list-style-type: none"> • further discussion on aspects of cookery, • useful tips for cheese makers, cashmere production, • basic goat and hair sheep husbandry practices, • feeding and nutrition, DHI, farm budgets • government assistance, fitting and many more workshops
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Program includes morning and afternoon activities for youth. Langston University is located 12 miles east of Guthrie, OK on Highway 33. Registration is free and begins at 8:00 a.m. Lunch may be purchased or you can bring your own. For registration information contact Dr. Terry Gipson (405) 466-6126 or terry.gipson@langston.edu or register online at <http://goats.langston.edu/goat-and-hair-sheep-field-day>.
Can't attend, then follow us on Facebook Live (<https://www.facebook.com/LUAIGR/>).

Paighton Lewis serves as the 4-H Youth Development Agent in Estill County. She graduated from the University of Kentucky in May 2019 with her bachelor's degree in Animal Science. She is particularly fond of livestock after growing up on a sheep farm in southwest Ohio as well as working at U.K.'s Sheep Unit. For ten years, she showed both breeding and market sheep in 4-H.