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An HSUS Report: Welfare Issues with Tail Docking of Cows in the Dairy Industry

Abstract

Banned in several European countries, as well as three US states, and opposed and criticized by the American Veterinary Medical Association, Canadian Veterinary Medical Association, experts, scientists, and representatives of industry, tail docking of cows in the dairy industry—the partial amputation of up to two-thirds of the tail, typically performed without anesthetic—is still permitted in most of the United States. Scientific studies have shown the practice to cause serious welfare problems for animals, including distress, pain, and increased fly attacks.

Introduction

Tail docking of cows in the dairy industry[*]—the partial amputation of up to two-thirds of the tail[1]—is a procedure typically performed without anesthetic[2] and is accomplished by the application of a tight, rubber ring that restricts blood flow to the distal portion of the tail, which atrophies and detaches[3] or is removed with a sharp instrument.[4]

Proponents of tail docking have suggested the practice offers a number of benefits, including improved cow cleanliness, udder health, milk quality, and worker health.[5,6] However, some of these justifications have been based on "personal on-farm observation rather than controlled research," according to the editor of industry journal *Dairy Herd Management*,[7] and are unsubstantiated.[8] Indeed, a major review and discussion of tail docking of cows determined that there are no apparent animal health, animal welfare, or human health justifications to support tail docking and concluded that the routine practice should be discouraged.[9] Other scientific reviews have reached similar conclusions.[10,11] In a study that used an online forum to gather the opinions of a mixed group of producers, veterinarians, teachers, students, and industry professionals, approximately 79% of participants were opposed to tail docking.[12]

In addition to the lack of efficacy of tail docking from an animal or human health perspective, animal welfare concerns, including distress and pain experienced by tail-docked cows, support discontinuation of the practice within the dairy industry. *Dairy Herd Management* editor Thomas Quaife concluded, "The cumulative body of research on tail docking speaks loudly. The early reported benefits do not exist, and tail docking is now more of a producer preference than a cow cleanliness/udder health issue. In light of this new research, and the public's heightened concerns regarding animal welfare, the dairy industry should eliminate the routine practice of docking tails."[13]

Prevalence of Tail Docking in the U.S. Dairy Industry

Annually in the United States, approximately 9 million cows are raised for milk,[14] with 1.7 million confined on 2,125 farms in California, the nation's top-ranking dairy-producing state.[15] In October 2009, California became the first U.S. state to ban the tail docking of dairy cows, with passage of a state law that took effect on January

[*] For more information, see "An HSUS Report: The Welfare of Cows in the Dairy Industry" at www.hsus.org/farm/resources/research/welfare/welfare_dairy.html.

1, 2010.[16] In 2010, an agreement in Ohio[17] led to a comprehensive set of rules that included a ban on tail docking of cows effective January 1, 2018.[18] In 2012 Rhode Island passed a law prohibiting the docking of cows' tails that become effective upon passage of the legislation.[19,20]

A survey by the U.S. Department of Agriculture in 2001 found that 50.5% of U.S. dairy operations practiced tail docking. Some dairy farmers tail-docked only a small percentage of their herd, but approximately 1 in 6 dairy producers docked the tails of 100% of the herd.[21] A Colorado State University 2005-2006 survey of 113 dairy facilities reported that 82.3% of dairies surveyed practiced tail-docking.[22] Indeed, cows are increasingly tail-docked in North America.[23,24,25]

Cow Cleanliness and Udder Health

It has been suggested that as cows' tails become soiled through contact with the milking gutter,[26] urine,[27] feces, and debris,[28] the cleanliness and health of the animal are diminished and milk quality decreases.[29] Regarding hygiene, of particular concern is mastitis, a painful disease of the udder. Scientific research does not support claims that tail-docked cows have better hygiene or improved milk quality.[30,31,32,33,34,35,36,37] In addition, no differences in frequency of mastitis have been found between tail-docked and intact cows.[38]

In one study examining more than 400 cows housed in a free-stall system, researchers found that docking tails improved neither health nor hygiene and concluded that because of "the lack of cleanliness and udder health benefits associated with docking, we see little merit to adopting this procedure."[39] A similar determination was made by researchers who studied more than 1,200 lactating cows from eight Wisconsin farms: "[T]ail docking made no consistent difference in animal cleanliness." The scientists concluded that their "study was unable to identify a significant improvement in cow cleanliness or milk quality that could be attributed to tail docking," that "other management decisions may play a more significant role in determining milk quality," and that "no positive benefits to the cows have been identified."[40]

Worker Health

Proponents of tail docking maintain that the mutilation may benefit workers' comfort and health by reducing their contact with the soiled tails of cows, a possible route of disease transmission on dairy farms.[41] However, in the most comprehensive review of scientific literature on tail docking to date, Carolyn Stull of the University of California-Davis School of Veterinary Medicine and her colleagues found the "available data do not support claims that docking improves the dairy worker's comfort or safety or the health or cleanliness of the cow's udder."[42] Indeed, researchers in New Zealand concluded that improving hygiene and wearing protective clothing are effective in reducing the risk of disease infection from dairy cows,[43] and, rather than tail docking, "the best solution is to control the source of infection in the cattle."[44] In a later study, the scientists again confirmed that "the only way to eliminate the problem is to prevent the milker's exposure to infected cattle urine in the milking shed, and this can only be achieved by the control of leptospirosis in the livestock. It is believed that the most efficient means of achieving this is to vaccinate the cattle and prevent them from becoming infected."[45]

Animal Welfare Concerns

The practice of tail docking cows has been shown to negatively impact animal welfare. Numerous researchers have found that partially amputating the tail reduces the animals' ability to switch away biting insects,[46,47,48,49] particularly flies, leading to increased fly counts on the hind quarters of docked animals,[50] and increasing fly-avoidance behaviors, including foot-stomping and head-turning.[51] A study published in the *Journal of Dairy Science* found that tail-docked cows exhibited behaviors indicative of discomfort, including standing more than intact cows ("cows tend to stand when uncomfortable"[52]), suffered more fly attacks, and showed increased fly-avoidance behaviors—findings that led the researchers to conclude intact tails are needed for fly avoidance in hutches during the height of fly season.[53] Scientists have reported, "The results suggested that fly avoidance

behavior is compromised by switch trimming but not as severely as by tail docking, which prevents normal fly avoidance behavior and is detrimental to the cow's welfare."[54]

Additionally, the practice of tail docking has been shown to result in behavioral and physiological signs of distress and pain. For example, tail docking of lambs with rubber rings has been found to produce significant increases in activity of pain receptors in the tail stump.[55] One study on Holstein cows found that on the sixth day after tail docking, the rubber-ringed groups spent longer with their tails pressed to their bodies.[56] Another concern is the formation of abnormal growths of nerve fibers, or neuromas, in the post-amputation stump that could lead to chronic pain. Neuromas have been found in numerous other species after similar amputations, including lambs, chickens, and, most recently, calves,[57] and these bundles exhibit abnormal nerve discharge patterns, which are thought to be painful.[58,59] Behavioral changes indicate increased sensitivity of cows with docked tails to heat and cold, similar to human amputees who experience phantom limb pain.[60]

In some cases, pain can be prolonged after tail docking due to inflammation and the onset of infection at the lesion.[61] It has been shown that abnormal behaviors indicative of pain can persist for up to 41 days after castration and tail docking of lambs,[62] and improper band placement on dairy cows can lead to excessive swelling.[63] Also reported to develop in animals after tail docking is clostridial disease, including gangrene and tetanus.[64]

Alternative to Tail Docking

In addition to improving handling and housing management, switch-trimming—the "periodic trimming of the long hairs growing at the distal end of the tail"[65]—is an effective and humane alternative. Researchers found that after comparing cattle who had been tail-docked, switch-trimmed, or left intact, "the proportion of flies on the rear quarters of trimmed cows was intermediate between that of cows with complete and docked tails" and offered that a "compromise between milking personnel's comfort might be achieved by trimming the switch in the spring (when the tail was more likely to be dirty) and allowing it to grow back over the summer (when fly numbers are highest)."[66]

Scientific and Expert Opposition to Tail Docking of Cows in the Dairy Industry

Both the Canadian Veterinary Medical Association (CVMA) and the American Veterinary Medical Association (AVMA) oppose tail docking.[67,68] The CVMA states that "the practice of tail docking of dairy cattle has evolved with the assumption that this procedure will reduce the somatic cell count and risk of mastitis. These perceived benefits have not been substantiated in the scientific studies to date. Furthermore, it has been shown that cows are unable to effectively keep flies away once the tail is docked. The CVMA does not accept the exposure of an animal to a surgical procedure in the absence of a justifiable benefit."[69] In its "Tail Docking of Cattle" position statement, the AVMA "opposes routine tail docking of cattle. Current scientific literature indicates that routine tail docking provides no benefit to the animal, and that tail docking can lead to distress during fly seasons. When medically necessary, amputation of tails must be performed by a licensed veterinarian."[70] Indeed, researchers from Colorado State University stated that "[t]he discomfort suffered by cows at the time of docking and throughout life as a result of not being able to swish flies is not reasonable, because the only benefit is to milkers in the milking parlor" and noted that some producers "had quit tail-docking due to difficulty defending the practice."[71]

Industry representatives, experts, and scientists who have discouraged tail docking include the Milk and Dairy Beef Quality Assurance Center,[72] the National Milk Producers Federation (NMPF),[73] the National Mastitis Council,[74] leading cattle welfare expert Dr. Temple Grandin,[75] and numerous welfare assessment programs.[76] According to the California Dairy Quality Assurance Program, "there is no benefit to tail docking normal, healthy tails in dairy cattle based on peer-reviewed scientific studies and governmental sponsored research."[77] The American Association of Bovine Practitioners' stated position reads: "The AABP is not aware of sufficient scientific evidence in the literature to support tail docking in cattle. However, if tail docking is deemed as necessary for proper care and management of production animals in certain conditions, veterinarians should

counsel clients on proper procedures, benefits, and risks."[78] University of Wisconsin researchers determined, "Contrary to popular opinion, there does not appear to be any influence of tail docking on cleanliness of udders or legs, nor does there appear to be a relationship between tail docking and milk quality. Other factors such [as] individual animal behavior, housing, handling and facility management have much greater influence on animal hygiene and mastitis than tail docking."[79] This finding was corroborated by University of British Columbia scientists who concluded that there was "no difference between cows with intact tails and those that had been docked in terms of any of our cleanliness measures, somatic cell counts (a measure of udder health), or cases of mastitis as diagnosed by the herd veterinarian."[80] In 2012, The NMPF Board of Directors approved a resolution opposing the routine tail docking of dairy animals, with the exception of cases of traumatic injury to the tail, and recommending switch trimming as an alternative.[81]

Tail docking of cows in the dairy industry has been banned in several countries, including the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom.[82] However, despite criticism of the practice on the bases of scientific research and welfare concerns, tail docking is still permitted in most of the United States.

Conclusion

Scientific research suggests that tail docking, a practice known to cause distress, pain, and stress in cows, benefits neither animal nor human health. Financial considerations may also favor discontinuing tail docking, as increased fly attacks have been linked to disrupted grazing, slower growth, and reduced milk production and weight gain.[83] In order to improve the welfare of farmed animals and to align with positions held by several governments, North America's largest veterinary medical associations, experts, scientists, and representatives of industry, tail docking of cows in the dairy industry should be disallowed.

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