

Minnesota Senate Environment, Climate and Legacy Committee

Chair Hawj and Committee Members;

I am Dr. Scott Josephson of the TriCounty Veterinary Clinic in Taunton, Minnesota. I am a graduate of the University of Minnesota College of Veterinary Medicine and have been in practice for 38 years in southwest Minnesota. Although I own a general mixed animal rural practice, my focus is in ruminant reproduction. This includes 35 years experience in embryo transfer and in vitro embryo production for cattle, sheep and goats as well as laparoscopic artificial insemination services for 60+ whitetail farms throughout the Midwest.

I am concerned about the language in Senate Bill S.F. 1526 which will amend Minnesota Statutes 2022, sections 13.643, 35.155 and 35.156 as it pertains to the import and movement of cervidae semen for use on whitetail deer farms in Minnesota.

The captive cervid industry, coupled with private and public research, have identified 4 resistant gene markers to CWD in certain individual whitetail deer. In addition, research has also produced a 50K genomic scale (50,000 locations on the whitetail genome) that appears to have promise as a predictor of an animals susceptibility to developing CWD.

Most, if not all, whitetail farms are now selectively breeding to introduce and increase these resistant markers in their breeding herds. In addition, the North American Deer Farmers Association is using the 50K genomics to establish CWD resistant breeding values in their registry to assist farms in selective breeding programs. It is worth noting that there are very promising early results in herds that have used and studied these approaches to prevent animals from infection with CWD prions, even in a high exposure environment and adult deer reaching 4 to 5 years of age in that environment. (See "Did We Find a Cure for CWD?" YouTube Video with Greg Flees of Wilderness Whitetails). We must also consider that in the wild population, more than 70% of the wild males carry the least resistant/most susceptible genetic alleles.

By selectively using semen from males carrying multiples of one or more of the resistant alleles this in turn will produce breeding females that are less susceptible hosts to the disease. As I previously noted, recent results from studies on farms that have aggressively introduced resistant genes into their animals and eliminated animals carrying no genetic resistance have shown that disease and infection can likely be prevented with this approach. Males produced in these systems can remain negative to 4 and 5 years of age and as a result should be able to provide prion-free semen. Virtually all of the semen that we use in artificial breeding programs are identified as carrying one or more resistance markers and/or desirable breeding values for resistance. It may be that artificial insemination is indeed safer in controlling the disease than natural service by live males merely due to the known genetic resistance of the male.

Furthermore, most states require mandatory CWD testing on all animals harvested or that die on cervid farms. As a result, semen that has been harvested and stored from animals that are subsequently deceased has essentially been "tested" as coming from a negatively tested donor animal. This would preclude any concern and in fact verify the status of the

semen as being prion free. As a result, restrictive language such as in the proposed bill would actually be scientifically contradicted and subsequently be counter-productive to allowing cervid farms access to the genetics that will ultimately help to eliminate CWD risk on their farms.

As you may know, scrapie is a transmissible spongiform encephalopathy (TSE) disease in sheep that is caused by a prion similar to what causes CWD. Beginning in the year 2000, the USDA established an eradication effort to rid the United States of scrapie. Through identification of resistant animals using just two or three genetic markers and by using those animals in farm breeding programs, by 2022 scrapie has essentially been eradicated from the United States.

In addition, as a comparison, there have been no documented cases of scrapie (the prion/TSE disease in sheep) transmission via reproductive introduction in sheep.

Therefore, by restricting the access of cervid farms to semen from highly resistant males, no matter where those animals are located geographically, we will be slowing the progress of solving the problem of CWD on cervid farms. If our goal is to truly help cervid farms eradicate the disease within their herds, we should support the use of semen from highly resistant animals rather than focusing on what appears to be an extremely low risk source of disease introduction.

I urge you to support the scientific approach using genetics to achieve the goal of removing chronic wasting disease from our farmed deer population by not restricting one of the most valuable tools we have in combating the disease.

Respectfully,

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