

Comparing the Scientific Efficacy and Practical Management Application of Genetic, Prion, and Bacterial Approaches Toward Solving America's CWD Crisis

An Overview by John Eveland, Project Director
North American CWD and Human Health Project (Project NOAHH)

August 20, 2021

Researchers at Texas A&M University's College of Veterinary Medicine have discovered that there are genetic markers which identify the susceptibility of white-tailed deer to chronic wasting disease (CWD).

<https://today.tamu.edu/2020/07/17/cvm-researcher-develops-tool-to-improve-chronic-wasting-disease-resistance-in-white-tailed-deer/>

Quoting from the article: "Such a program would allow deer farmers, wildlife managers and regulatory agencies to selectively breed the least susceptible deer, thereby building healthier, more CWD-resistant populations."

Permit me to comment on this discovery. After 50 years of failures by the prion industry, the study listed below appears to be a step forward in the seemingly never-ending struggle to understand, manage, prevent, and cure CWD. During the past several years, Texas A&M along with government partners had tried to develop a previous genetic approach to solving CWD. However, subsequent testing determined that the genetic approach was not the answer. This newly published approach involves genome sequencing -- a more holistic look at the DNA of an animal.

From my perspective, this represents a long-term approach that would first focus (as the researchers stated) on deer farms -- not on wild cervid populations. It would involve generations of "breeding out" CWD susceptibility and "breeding in" resistant genes. This approach should continue, of course. However, let's look beyond academics at what's currently going on in the real world.

First, it is important to note that there is a way to end the disease practically overnight in deer farms as well as in wild cervid populations throughout North America -- simply provide adequate funding and permit USP and our partners to proceed with our bacterial-based CWD project -- the North American CWD and Human Health Project (Project NOAHH). Our project has been scientifically validated and is designed to develop two vaccines and three diagnostic test kits that are now and have been waiting for funding.

Genetic approaches do not address the dire risk for hunters who are now eating infected venison -- currently estimated to be as many as 100,000 people each year. Once developed, our hunter diagnostic test kit will inform hunters in the field if their deer are infected even before they field dress their deer. We could have a live animal test on-line in a year or two that will allow deer farmers to test all their "living" deer on the spot. A human diagnostic test kit would permit hunters to test themselves and their families for infection by the CWD-causing bacteria. And we will have vaccines for field implementation toward containing and eradicating CWD in free-ranging deer as well as in deer farms within 1-3 years from funding. We could have already had these five treatments in the pipeline when we initially announced the project 3-4 years ago if opposing factions had not been involved.

Again it should be noted that while genetic approaches might have academic and esoteric value over the long term, at this time, when faced with the dire consequences of the rapid and unabated spread of the disease, such genetic approaches do not appear to have practical management application in halting CWD, cannot achieve any of the desperately needed treatments that are offered by our project NOAHH as listed in the previous paragraph, and the fatal risk to hundreds-of-thousands of humans will continue.

Secondly, let's look at what's currently going on in the real world.

(1) Deer and elk populations in Pennsylvania are at grave risk. If deer and elk populations collapse, it will herald the death knell for the future of recreational hunting, the elk visitor center, and the outdoor industry. Ongoing genetic and prion studies are likely to have little significance in saving Pennsylvania's wild cervids.

(2) Our vaccines represent the only hope for free-roaming deer, elk, moose, and caribou in the other 25 states and provinces and throughout the remainder of North America.

(3) As a published article of a week or two ago pointed out, it is likely that migrating caribou will soon carry CWD to reindeer herds in the Arctic – captive reindeer herds on which Native People (Eskimos and Aleuts) depend for their survival. <https://nationalpost.com/news/canada/spreading-wildlife-disease-threatens-deer-elk-and-maybe-humans-new-research-says> Last March (2020), John Eveland presented this prediction and upcoming cervid and human disaster as the keynote speaker at the International Reindeer Convention in Buffalo. Eveland pointed out, as was the concern of Canadian wildlife managers in the above article, that caribou might already have been infected but remain asymptomatic and undetected considering that the CWD-causing bacteria often reside undetected for up to two years in cervids before manifesting in the rapid decline and always-fatal classic symptoms. US and Canadian governments are now involved in a dangerous game – to “hang their hats” on conventional 50-year-old prion-industry research and the hope of a genetic solution or to, instead, choose to support the bacterial approach, our Project NOAHH. The cultures and survival of these Alaskan and Canadian People stand at imminent risk if this matter is not soon addressed with our scientific and practical management solution. The wellbeing of these Native People now hangs in the balance, and their survival should be based on sound science and management practicality instead of political expediency.

(4) Human health will remain a crisis along with the systematic spread of CWD until our Project NOAHH is funded and the two vaccines and three diagnostic test kits are produced and implemented in the field. The lives of as many as 100,000 hunters and their families each year, not to mention those humans who are afflicted with similar human neurological diseases, remain at risk if an alternative course of action is not taken in the short term toward understanding and stopping CWD and related human diseases. Again, our Project NOAHH stands at the ready.

As director of Project NOAHH, I continue to offer these five treatments as a solution to stopping CWD, saving deer and elk herds in Pennsylvania as well as cervids across North America, and protecting human health. While genetic research might offer a future, long-term approach that stimulates the scientific curiosity, to a wildlife manager it offers very little toward solving the four real-world points of immediate, critical concern that I have outlined above. Without adequate financial support for our North American CWD and Human Health Project (Project NOAHH), it is predicted that CWD will have spread to every county in the Commonwealth within the decade with unimagined biological, social, and economic consequences, and will continue to spread unabated throughout the North American continent – and further.

Unified Sportsmen of Pennsylvania along with the Allegheny County Sportsmen's League and our partners including Sinnemahoning Sportsmen's Club, Pennsylvania State Camps Association, Eastern Pennsylvania Firearms Committee, Firearms Owners Against Crime, and many other organizations and citizens from across the Commonwealth, are commended for their steadfast determination to support this crucial project toward the short-term development of a practical, scientific solution to one of America's most virulent diseases.