

## **Peck Farm Research Report**

### **Title: Identifying Nutritional Characteristics' of a Cervid Farm under CWD Quarantine**

The Wisconsin Cervid Farmers Foundation (WCFF), North American Deer Farmers Association (NADeFA) and Deer Breeders Corporation (DBC) have collectively funded the following research review for supporting the continued CWD research investigation of 6 Whitetail deer on a Wisconsin farm located in Iowa County, Wisconsin.

The purpose of this collective funded research in Phase 1 is to review and monitor the deer's health / wellbeing and reproductive status of the quarantined deer held on this farm. Once the 1st year baseline information of Phase 1 has been established supporting the beginning of this 4 year study a Phase 2 proposal will be generated with the collective input from each of the supporting organizations membership. Once phase 2 is developed and approved for funding will provide a more detailed ongoing understanding of the CWD disease process in the whitetail deer on this farm while held in captivity under quarantine. Currently these quarantined deer do not show any clinical signs of CWD after two rounds of rectal biopsies. Phase 1 data collected to date provides an insight into current health status of the deer providing a basis for any of the deer on this farm that could change in the disease process to any advanced clinical signs of the disease process.

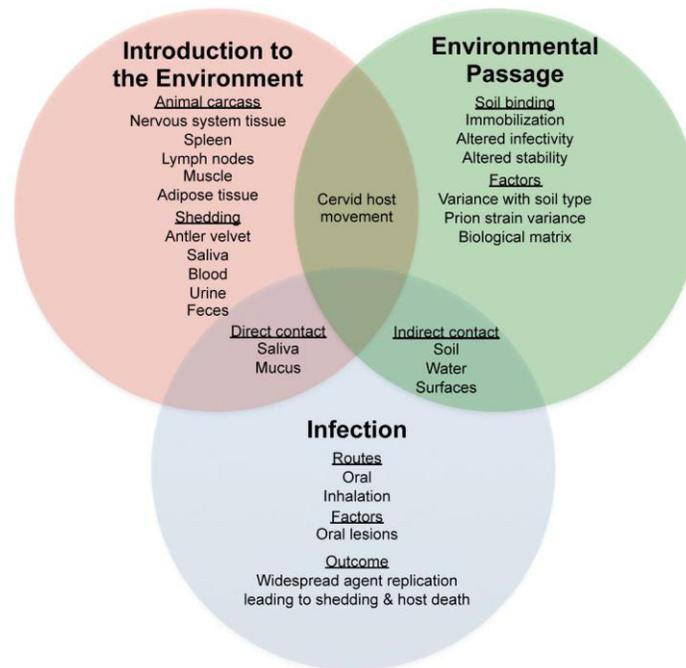
This captive deer herd is located in Iowa County Wisconsin where back in 2002 was the first location of CWD detected in the wild deer population in the State of Wisconsin. Today in 2018 Iowa County is still considered the highest CWD endemic area in the State of Wisconsin averaging a reported 5-6 positive CWD deer per square mile of habitat. With this quarantined farm being of a single fenced configuration will provide a good disease model for wild to captive interaction through potential nose to nose contact.

The information within the report of Phase 1 was also designed to provide any Cervid Farmer the opportunity to review the inputs and outputs of your own farm operations. The information will help to improve your own Bio Security plans including on farm sanitary practices as deemed necessary for food, water and animal health.

There has been a lot of research in the past supported by millions of dollars relating to detection to the CWD prion in Cervids by various invasive terminal techniques to the end of a positive CWD finding in taking down a farms operation and going out of business. Current research is focused on how to develop testing procedures that are considered a more non-invasive anti mortem testing protocol. This anti mortem testing has many hurdles on percentages of accuracies to be considered validated by the USDA for use on the farm for detection of the CWD prion. This type of testing is still an

advance in science that could provide early detection of a disease process but under current Law practices of CWD quarantine procedures the farm would still be considered quarantined and go out of business

Most nutritional studies have been conducted in genetically altered rodent models by directly placing a known CWD prion biological sample into the brain region and waiting for a life ending dependant marker. Other research has been conducted on the whitetail deer as a model by adding a known prion material into areas of the body to see what the shedding effects in test detection would be for anti-mortem testing development.



Factors influencing horizontal transmission of prion disease in the environment.  
doi:10.1371/journal.ppat.1003113.g001

There have been few nutritional research studies in cervids looking into what could be the origin or continuing process of the CWD disease process. There has been an increase in “sparks” of CWD showing upon the landscape that no one seems to know where this disease originated from both on the farm or in the wild cervid population.

As we collectively learn from the nutritional components and the pathways organisms living within our cervids can we begin to understand how the CWD disease process will have a negative effect on our study deer held under quarantine.

As a member you can read your funded Phase 1 Research Report summary on WCFF website: <http://www.whitetailsofwisconsin.com/wcff.php> located under the Library tab.

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