Advancing *In Vitro* Prion Amplification Assays for CWD Diagnostic Testing

This study assesses the reliability and sensitivity of next-generation prion detection methodology on a variety of bodily tissues, fluids and environmental sources.

TIMELINE
Launch: July 2018
Funded Through: June 2021

FUNDING
Pittman-Robertson

DNR PARTNER BUREAU
Wildlife Management

EXTERNAL STAKEHOLDERS
Deer Hunters
Private Landowners
Conservation Congress
CDAC
Interested Public

The Prion Assay Project seeks to compare the sensitivity and specificity of next-generation prion-detection methods (sPMCA and RT-QuIC) with conventional CWD tests (ELISA and IHC). It will also identify which bodily tissues and fluids are best for ante-mortem (before death) CWD tests.

Tissues and bodily fluids for this project will come from deer captured during the Southwest CWD, Deer and Predator Study. The Prion Assay Project could lead to less invasive and more sensitive ante-mortem CWD testing as well as post-mortem testing of more easily accessible body tissues and/or fluids. This could result in less costly CWD surveillance and quicker testing turnaround time.

The project will also help determine how prion sources differ in their infectivity, leading to an improved understanding of the potential for environmental transmission of CWD.

This is a collaborative project with Wisconsin DNR, the University of Wisconsin-Madison and the United States Geological Survey National Wildlife Health Center.


Linda Freshwaters Arndt.

KEY POINTS

» This project compares the sensitivity and specificity of next-generation prion-detection methods with conventional CWD tests

» This research could lead to less invasive and more sensitive ante-mortem CWD testing as well as post-mortem testing of more easily accessible body tissues and/or fluids, for less costly CWD surveillance and quicker testing turnaround.

» The project will determine how prion sources differ in their infectivity and improve our understanding of the potential for environmental transmission of CWD.

SPOKESPERSON
Daniel Storm, PhD
Deer & Elk Research Scientist
DanielJ.Storm@wisconsin.gov
(715) 365-4712

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