

Theodore Roosevelt Conservation Partnership

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CWD-Sniffing Dogs and Other Promising New Disease Detection Methods

Studies are ongoing, but these tests could bring us closer to identifying chronic wasting disease in live deer. Hunters are still celebrating the recent passage of the Chronic Wasting Disease Research and Management Act, which authorized a total of \$70 million per year through 2028 to be split evenly between disease research and state response. But even before these dollars have hit the ground, studies on new disease detection methods are advancing.

Our partners at the National Deer Association have just highlighted three such studies that show we may soon be able to detect CWD-causing prions outside of animal tissue—including in scrapes, at feeders, and in deer feces—just as reliably as we can with tests on the lymph nodes of harvested deer.

The testing technology in all three studies is known as RT-QuIC (pronounced “R.T. Quick”), and it is different than the two laboratory methods that could be used on samples from your deer.

In the first study, a researcher from the Mississippi State University Deer Lab sampled 99 scrapes in a CWD zone in southwest Tennessee, and 55% of them tested positive for CWD prions using RT-QuIC. This is the first study to confirm CWD prions in scrapes.

The second, an ongoing study out of the University of Minnesota’s Center for Prion Research and Outreach, makes use of previous evidence that prions are effectively held by stainless steel and glass. Researchers positioned “sentinels” made of these materials around feeders in a way that deer would touch them with their noses or mouths, then swabbed the surfaces and tested the swabs using RT-QuIC.

They’re seeing preliminary success: After running tests in three states on CWD-positive captive deer herds, CWD-positive wild populations, and a healthy captive herd as a control, RT-QuIC testing found CWD prions at approximately the same prevalence rate as the known CWD-positive rate in those populations.

Finally, researchers with the University of Pennsylvania’s Penn Vet Working Dog Center and the Wildlife Futures Program have recently made the first-ever attempt to train dogs to sniff out the difference between the feces of healthy and CWD-positive deer.

Two Labrador retrievers and a Finnish spitz scent-trained in a controlled setting using samples of feces from deer in both the early and late stages of CWD infection, and in field testing these dogs alerted on eight out of 11 positive samples. They falsely alerted to negative samples, as well, but significantly more frequently on CWD-positive samples.

The CWD status of the samples was known in this case, but if dogs were to be employed in surveillance efforts in the future, RT-QuIC could be used to confirm the presence of CWD prions when a dog alerts.

This science and its implications are extremely cool, so we thought you should know about it. As NDA’s Lindsay Thomas Jr. says in his article, “Good news is scarce in the fight against chronic wasting disease,” so it’s nice to have some to share.