IOWA DEPARTMENT OF AGRICULTURE & LAND STEWARDSHIP

Farmed White-Tailed Deer Herd Management Utilizing Predictive Genetics Project Q&A

The Iowa Department of Agriculture and Land Stewardship (IDALS) is utilizing USDA-APHIS chronic wasting disease (CWD) Cooperative Agreement funding to work with Iowa white-tailed deer farmers to determine Genomically Estimated Breeding Values (GEBV). The project provides an opportunity for farmed white-tailed deer herds to utilize whole genome predictive genetics as a selection tool to identify differential susceptibility to Chronic Wasting Disease (CWD) in individual animals.

The goal of this project is to comprehensively define the genetic landscape of farmed white-tailed deer in Iowa with respect to differences in CWD susceptibility for the purposes of improving the genetic susceptibility via selective breeding.

What does the process look like to participate?

Producers must complete the farmed white-tailed deer herd predictive genetics participation application and provide an animal inventory spreadsheet with list of animals to IDALS. This should be submitted via email to cervid@iowaagriculture.gov. Applications are processed on a first come, first served basis.

Upon receipt, IDALS will review to ensure the application is complete, the herd is compliant with Iowa's CWD Herd certification program (HCP) and that the animals included on the inventory reflect animals documented in the herd. Upon verification, the producer will be contacted via e-mail by IDALS noting approval to ship samples to NADR.

Producer can then acquire tissue sampling unit (TSU) tubes and applicator gun from NADR at their own expense https://www.nadeerregistry.com/samplestissue.html. Ear punches are collected in the TSU tubes using a specific applicator similar to the process of applying an ear tag. Sample collection and any associated costs (veterinary fees or medication/sedative) are the responsibility of the owner.

After collection, tubes and paperwork must be appropriately labeled with animal information including official ID. Producers will ship samples to the North American Deer Registry (NADR). A copy of the approved application and animal inventory must accompany the samples so that costs associated with testing will be billed to IDALS. Each animal tested will receive a genomically-estimated breeding value (GEBV) indicative of their genetic resistance to CWD. Once testing is complete, producers will receive results from NADR. Producers must send IDALS a copy of GEBV results for each animal tested within 14 days of receiving results from NADR. These must be emailed to cervid@iowaagriculture.gov.

What kind of samples can I submit?

An ear punch in a tissue sampling unit (TSU) tube is the preferred sample type to obtain the most accurate results from the NADR. NADR suggests samples be shipped in a rigid box to prevent damage.

What is required of me to participate?

Producers must comply with the Iowa CWD HCP. The farmed white-tailed deer herd predictive genetics participation application and animal inventory spreadsheet should be completed and submitted via email to cervid@iowaagriculture.gov.

What is provided if I choose to participate?

GEBV Tissue Testing through NADR will be provided for approved animals at no cost to the producer, total value is approximately $80 per test.

When can I participate in this project?

Applications can be submitted immediately and will be evaluated by IDALS until the allotted number of tests is fully utilized.

How will the state utilize the data of participants?

This data will be used to comprehensively define the genetic landscape of farmed white-tailed deer in Iowa with respect to differences in CWD susceptibility.

Can I receive parentage information for the deer from which I have submitted samples?

Additional testing may be available utilizing the same tissue sample submitted for GEBV testing. However, IDALS will only cover the cost of GEBV, any additional testing will be at the producer's expense. Please contact NADR for available options.

Does the NADR make GEBV's public to other members like they do parentage information?

No. Unlike pedigrees that can be viewed by anyone with access to the NADR database, individual GEBVs can only be viewed by the animal owner.

How do I sign up to participate?

Complete the farmed white-tailed deer herd predictive genetics participation application and animal inventory spreadsheet, then submit via email to cervid@iowaagriculture.gov.