CHRONIC WASTING DISEASE LABORATORY DIAGNOSIS IN MICHGAN'S WILDLIFE

The first step for CWD testing is a screening test for CWD called ELISA. It is a protein assay that rapidly (4-6 hours) isolates and detects the abnormal (CWD prion) proteins in tissues, if they are present. By using this test, testing results are available to hunters and submitters more promptly. If abnormal protein is detected in the ELISA screen, the remaining tissue in that sample is tested using the immunohistochemistry (IHC) process.

The current USDA gold standard test for Chronic Wasting Disease involves IHC examination of the brainstem (medulla oblongata) lymph glands, and tonsils. Listed below are the steps required for the gold standard test for deer and elk.

IHC CWD TEST PROCESS
The steps and time required for testing brain samples under optimum conditions:
1. Deer or elk head is received at laboratory.
2. Samples are taken from the animal's brain, lymph nodes and tonsils.
3. They are fixed in formalin (formaldehyde) for 24 hours.
4. A thin section is cut through the samples.
5. It is placed in formic acid for 1 hour.
6. It then is washed in water for 4 hours.
7. It goes back into a 10 percent solution of formalin for 4 hours.
8. It is taken to the tissue processor overnight where it is embedded in paraffin.
9. The following day the sections are cut and put on microscope slides. It takes 4 hours to set.
10. It is taken to the staining machine for 2 to 4 hours.
11. It is dried and a cover is slipped over it.
12. It then can be read and will show if the sample is infected.
Total time: 53 hours.
Source: Beth Williams, University of Wyoming.

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