

UNITED STATES ANIMAL HEALTH ASSOCIATION – 2006

RESOLUTION NUMBER: 13 APPROVED

SOURCE: COMMITTEE ON CAPTIVE WILDLIFE
AND ALTERNATIVE LIVESTOCK

SUBJECT MATTER: THE USE OF THE ENZYME LINKED IMMUNOSORBENT
ASSAY (ELISA) TEST TO DIAGNOSE CHRONIC
WASTING DISEASE IN CAPTIVE WILDLIFE

DATES: MINNEAPOLIS, MINNESOTA – OCTOBER 12-18, 2006

BACKGROUND INFORMATION:

The enzyme-linked immunosorbent assay (ELISA) for chronic wasting disease (CWD) is approved and licensed for free roaming mule deer, white tailed deer and elk. There is ample data indicating essentially equal sensitivity and specificity of ELISA tests compared to immunohistochemistry (IHC). The ELISA test can be done with faster turnaround times and is more efficient for the laboratory and requires fewer personnel than IHC. The ELISA test positives can be confirmed by IHC conducted by laboratory personnel who are experienced in identifying the obex and lymph node tissue to ensure proper tissue submission. More timely laboratory results are needed for producers to move animal product, to verify CWD status and for proper disposal of potentially CWD positive animals.

RESOLUTION:

The United States Animal Health Association (USAHA) requests that the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS) approve the USDA licensed enzyme-linked immunosorbent assay (ELISA) test for use on cervid species within the captive wildlife industry

RESPONSE:

United States Department of Agriculture (USDA), Animal Plant Health Inspection Service (APHIS), Veterinary Services (VS)

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS) is proactive in detecting and monitoring chronic wasting disease (CWD) in the United States. The VS Center for Veterinary Biologics has approved four rapid test kits for CWD in wild deer and elk. The species and tissues for which each kit has been approved vary. APHIS has approved

the kits to facilitate processing large numbers of samples collected during the hunting season. In wild cervids (where the goal is to detect and monitor the prevalence of CWD at the population level, and where animals migrate relatively short distances), it is preferable to identify positive animals early, but not as critical if one is not detected.

Conversely, in farmed and captive populations—where the goal is to eliminate CWD, animals are often transported over long distances, and where the diagnosis of a positive animal has dire economic consequences for the owner or producer—it is extremely important to detect every positive animal and herd as early as possible and have the greatest possible confidence in that diagnosis. Therefore, the VS CWD program and the National Veterinary Services Laboratories (NVSL) have continued to use immunohistochemistry (IHC) testing methods as the “gold standard” and only diagnostic test used for CWD in farmed and captive cervids.

When evaluating farmed and captive cervid submissions for CWD, it is extremely important to be able to visualize tissue architecture because it can not be verified in enzyme-linked immunosorbent assay (ELISA) testing. Samples that do not contain the proper tissues could result in positive animals testing negative and being missed. Approximately 8 percent of the FY 2006 samples submitted for IHC testing were problematic because of location verification difficulties.

APHIS agrees that there are some circumstances when a quicker turnaround time for CWD testing is preferable—one example is slaughter surveillance testing, where product must be held pending test results. We are exploring the possibility of using rapid test kits for CWD slaughter surveillance, provided that a professional sample collection protocol can ensure confidence in the quality of the samples being submitted.

At depopulation, where carcasses may need to be held for test results before being directed to landfill, alkaline digestion, or incineration for disposal, the rapid test kits may prove to be a useful screening tool. In these cases, sample collectors are generally well-trained professionals and the consequences of spreading the disease because of missed positive results are remote. Furthermore, all animals in herd depopulations (including ELISA positives) will be tested by IHC.

APHIS does not believe that increased speed is justified (at the expense of potentially missing a positive result through improper tissue submission) during routine, on-farm surveillance testing scenarios where product is not being held pending test results.

We are currently testing approximately 15,000 farmed or captive cervid samples per year by IHC and have a network of 26 approved IHC laboratories. If evenly distributed, this equates to less than 600 IHC tests per lab per year, or approximately 22 per week. If laboratories have excessive IHC testing loads, it may be necessary for NVSL to redirect some of this testing to labs with the capacity to take additional samples.

Therefore, we do not believe that a blanket approval of CWD testing by ELISA in farmed cervids is indicated at this time. There were concerns raised during Committee

discussions and we will continue to evaluate the use of the ELISA and its use in the VS CWD program.