United States Department of Agriculture

Animal and Plant Health Inspection Service

Veterinary Services

Dual Path Platform (DPP) test evaluation in Mule and Sika Species

The United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), Veterinary Services (VS) is announcing a project to evaluate the effectiveness of the Dual Path Platform (DPP) as an official primary test and secondary test for bovine tuberculosis (TB) program use in captive and free ranging mule deer *(Odocoileus hemionus)* and sika deer *(Cervus nippon).*

Background

The advantage of the serologic test is that it requires only one capture event; thereby, reducing the potential for injury and improving animal welfare. Cervid industry representatives have identified the evaluation of the DPP for use in Mule deer and Sika deer as a priority. A serologic test that performs comparable to skin tests with the added advantage of reducing animal handling and associated morbidity and mortality is expected to enhance TB surveillance in these two species. Industry representatives have estimated an increase of 30-40% in TB testing will occur in these species with the option of using the DPP test.

Implementation

Evaluation of the DPP test in Mule and Sika will be initiated on October 1, 2018. The project will utilize serum samples submitted by designated accredited veterinarians for herd TB certification purposes. Samples will be collected and submitted in a manner consistent with the requirements of established Veterinary Service policy and will be considered Official cervid TB tests. The non-negative cut off value for the DPP in both Mule and Sika deer will be set at an optical reader value of 200 reflective light units. Each captive cervid in this project that has non-negative test results to this initial DPP test will be classified as a suspect and retested with the DPP test no sooner than 30 days. Each captive cervid that tests non-negative to the second test will be classified as reactor. Tissue samples from reactor animals will be collected and submitted for laboratory testing in accordance with 2005 TB UM&R, III.A. and Veterinary Services Memorandum No. 552.3.

If a TB-infected Mule or Sika deer farmed herd is detected during the course the project, a herd management and testing plan will be developed based on the disease history and movement patterns of an individual herd. The plan will be designed by a State or APHIS representative with the herd owner to determine the disease status of livestock in the herd and to eradicate tuberculosis within the herd. The plan must be jointly approved by the State animal health official and the VS assistant director. Indemnity for individual and herd depopulation will be contingent upon available monetary resources. In addition to the herd plan, Veterinary Services personnel in collaboration with State animal health officials will collect and submit additional whole herd blood samples for storage at the NVSL serum bank. These samples may be used for further research and evaluation of M. bovis serologic tests.

Timeline

The project will be initiated October 1, 2018. The project will end for each species when a sample size of 306 individual animals has been reached. The project for Mule and Sika DPP validation will concurrently. We expect the Mule deer project, based on previous surveillance, may be complete more rapidly than the Sika deer project.

Project Monitoring/Ongoing Evaluation Plan

For this project, if more than 2 reactors are identified in the first 100 samples for either species during the pilot project, and all animals testing as reactor are found not to be affected by bovine tuberculosis based on necropsy, histopathology, PCR and culture, the project will be suspended and re-evaluated to evaluate sample size and/or sample bias. A project report will be distributed to State animal health officials and VS officials on a semi-annual basis. The report will summarize the project accomplishments including number of tests performed, number DPP suspects, number of reactors and necropsy findings.

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