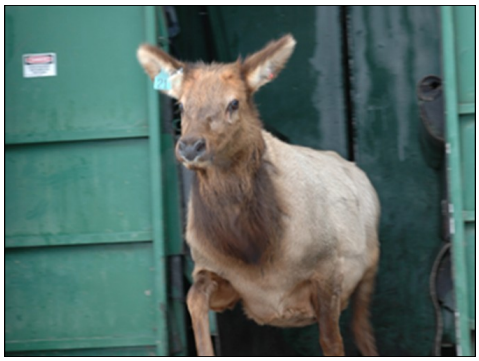
National Wildlife Disease Program

18 April 2011

Program Activity Report (PAR)

Collaborative Cervid Rectal Biopsy Research Project

Since the inception of the National Wildlife Disease Program, the program has strived to leverage its potential through strong collaborative efforts with various state and federal agencies.



The program continues to collaborate with the National Wildlife Research Center, USDA Veterinary Services, Colorado State University, the National Veterinary Services Laboratory, the Canadian Food Inspection Service, the Department of Interior National Park Service and the USDA Agricultural Research Service on chronic wasting disease research. This includes the original and predominant research on a live animal test for chronic wasting disease, the rectal biopsy procedure. This procedure was developed about 10 years ago by researchers in the United Kingdom for scrapie in sheep. Subsequently, Dr. Balachandran, with the Canadian Food Inspection Agency, introduced this concept to Colorado State University and the USDA. The USDA was able to quickly validate this test for scrapie diagnosis in U.S. sheep since positive animals were readily available.

Progress on validating this test for chronic wasting disease in deer and elk has been much slower. Most infected captive cervid herds, especially elk, have relatively few positive animals and it was difficult to find enough positive animals to statistically evaluate the test. By pooling our resources, we have been able to take advantage of the few highly infected captive white-tailed deer herds depopulated in Canada and the United States to generate the amount of information needed. In addition to the presence or absence of the disease agent, we have discovered that the genetics of the individual animals in the herd must also be considered when evaluating the test, because the genetics can affect the length of the incubation period.

We now have enough data on white-tailed deer to develop some guidelines for use of the rectal biopsy test. Significantly more data is required before we will be able to make decisions on the use of the test in elk.

The data suggests that this is valuable as a herd, not an individual animal, test. Positive results correctly indicate that disease is present in the herd; one negative complete herd test does not guarantee that the animals are free of the disease. A positive animal may be missed if it is early in the course of the disease.

This international cervid rectal biopsy project allowed both countries to pool resources and generate sufficient data to evaluate a live animal test that would have taken either individual country significantly longer to accomplish.

For more information, please contact Thomas Gidlewski or Kurt Vercauteren,

Thomas.Gidlewski@aphis.usda.gov
Kurt.C.Vercauteren@aphis.usda.gov

The original artwork on this page was created by the National Wildlife Disease Program's Erika Kampe and Sarah Goff