

AGRI-FACTS

Practical Information for Alberta's Agriculture Industry

Revised May 2015

Agdex 663-43

Chronic Wasting Disease (CWD) of Elk and Deer

What is it?

Chronic wasting disease (CWD) is a progressive, fatal, degenerative disease of the brain of free ranging or farmed ungulates (elk, mule deer and white-tailed deer).

CWD belongs to a group of related diseases called Transmissible Spongiform Encephalopathies (TSEs), which include Scrapie in sheep and goats, Bovine Spongiform Encephalopathy (BSE) in cattle and Creutzfeldt-Jakob Disease (CJD) in humans.

While CWD and BSE are both from the group of related diseases called TSEs, it is important to note that they are not the same disease and have differences in mode of transmission and symptoms. Also, CWD is not known to affect humans.

TSEs are associated with the accumulation of abnormal proteins (prions) in the brain. There are currently no treatments or vaccines available.

What are the symptoms?

Elk and deer with CWD may not exhibit observable symptoms of disease for a number of years. Eventually, as more brain tissue is affected, animals may exhibit loss of condition, excessive salivation, trouble swallowing, difficulty in judging distance, changes in behaviour and drooping ears.

Unfortunately, these symptoms are not specific to CWD and can occur with other diseases as well. Currently, the only way to diagnose CWD is by examining the brain tissue after the animal has died. Immunohistochemistry (IHC) staining is the universally accepted “gold standard” method of confirmation, although a number of rapid tests are able to screen for the disease.

Chronic Wasting Disease is a reportable disease under the Health of Animals Act

How is CWD transmitted?

The exact mechanism of transmission is unclear at this time, however, it is known that the disease can spread from one animal to another and females can pass it to their offspring.

Experimental and circumstantial evidence suggests infected deer and elk probably transmit the disease through contamination of water, soil and feed

by saliva, urine and/or feces. CWD seems more likely to occur where elk or deer are crowded or where they congregate at man-made feed and water stations. A heavily contaminated environment can be a source of infection. Surveillance information supports the fact that CWD is more prevalent in males than in females.

Are humans at risk?

There is no scientific evidence to suggest that CWD can affect humans. As a precaution, the World Health Organization advises against allowing any meat source possibly infected by prions into the human food system.

Is the disease transmissible to domestic livestock?

Scientific evidence suggests that it is unlikely that CWD can be passed to domestic cattle or bison under natural conditions. To date, research in the United States indicates cattle are not susceptible to oral exposure to CWD.

CWD has been experimentally transmitted by artificial means to mice, ferrets, mink, goats, squirrel monkeys, cats and calves.

Where has CWD occurred?

CWD has been diagnosed in wild deer and elk in at least 18 states in the United States and two Canadian provinces. Since 2001, CWD has been detected in wild cervids in several locations across Saskatchewan. Since 2005, CWD has been detected in Alberta's wild cervids in several locations along the Saskatchewan border.

To date, four cases of Chronic Wasting Disease (CWD) in farmed cervids have been detected in Alberta: the first three cases were detected in 2002 by the Canadian Food Inspection Agency (CFIA). The first case (March 2002) was an elk from northern Alberta. The second case (November 2002) corresponded to a four-year-old farmed white-tailed deer (WTD) from a game farm north of Edmonton. A third case was found in another WTD from the same farm, as a result of testing during herd depopulation. These were the first cases of CWD detected in farmed white-tailed deer in Canada.

The last case of CWD in a farmed cervid was detected in an elk in January 2015 by the TSE Laboratory of Alberta Agriculture and Rural Development under the mandatory CWD surveillance program. This case was confirmed by CFIA in February 2015. In all cases, the herds and trace-out animals were depopulated.

The disease has also been diagnosed in game farmed elk and deer in South Dakota, Oklahoma, Nebraska, Kansas, Montana, Colorado, Minnesota, New York, Michigan, Wyoming, Illinois, Maryland, Missouri, New Mexico, North Dakota, Pennsylvania, Texas, Utah, Virginia, West Virginia, Wisconsin and Saskatchewan

Since 1996, Alberta Environment and Sustainable Resource Development (ESRD) has conducted surveillance of wild elk and deer in an effort to reduce the spread of the disease in wild cervid populations. ESRD, with the co-operation of landowners and hunters, implemented a CWD control program in wild deer in a specific region along the Saskatchewan border where submission of cervid heads for CWD testing is mandatory in most of the 33 wildlife management units. This area includes both the North and South Saskatchewan rivers, which are corridors for wild cervids having frequent animal-to-animal contact with increased risk of CWD transmission.

Please visit the Fish and Wildlife web page <http://esrd.alberta.ca/fish-wildlife/default.aspx> for more information and maps, as well as information for hunters.

What is the Province's role once a case of CWD has been confirmed?

CWD is a reportable disease in Alberta under the *Animal Health Act*, but it is also reportable in Canada under the *Health of Animals Act* and, therefore, falls under the jurisdiction of the CFIA.

Once a case of CWD is confirmed, the province's role is to support the CFIA in applying their control measures, which include placing the source farm under quarantine. The province also assists by providing animal movement information and priority lab analysis, as well as keeping the livestock industry and the public informed.

If CWD is diagnosed on a cervid farm?

Present federal policy is to eradicate CWD from Canada, which may involve placing affected farms under quarantine and then evaluating, euthanizing, sampling and destroying remaining animals. Animals that have left the affected herd may also be euthanized or put under quarantine.

The federal government, different provinces and industry representatives are considering changes in the current eradication strategy towards a more preventive and control approach that could render better results.

When animals are destroyed, are owners compensated?

Yes, compensation is currently paid by the federal government for the market value of all animals ordered destroyed under the authority of the *Health of Animals Act*. This Act also allows for payment of destruction and disposal costs.

What policies does the province have in place to prevent or control the further spread of CWD in Alberta?

Alberta initiated a voluntary CWD surveillance program in October 1996. In August 2002, Alberta's Mandatory CWD Surveillance Program was implemented in farmed cervids. Elk and deer farmers are required to submit the heads for CWD testing from all farmed animals over one year of age that die or are slaughtered. Products from slaughtered animals must be held at abattoirs pending CWD negative test results.

In July 2004, the Alberta Government ended a moratorium on importing elk and deer by approving a cervid import protocol that allows elk, white-tailed deer and mule deer to be imported into the province from Saskatchewan for immediate slaughter at federally inspected abattoirs.

In September 2004, the Alberta Government began allowing elk, white-tailed deer and mule deer from anywhere in Canada and the United States to live on Alberta farms. To qualify for importation into Alberta, cervids must meet strict criteria to ensure that CWD is not imported into the province. Both these policies were developed based on a scientific risk assessment.

As of May 2015, over 92,000 farmed and wild cervids have been tested in Alberta since the initiation of the surveillance program in 1996. Monthly CWD testing results in Alberta are available on the Chief Provincial Veterinarian website ([http://www1.agric.gov.ab.ca/\\$department/deptdocs.nsf/all/cpv4264](http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/cpv4264)).

For more information about CWD, contact your local veterinarian or consult the following web pages:

Canadian Food Inspection Agency website:
www.inspection.gc.ca

Alberta Agriculture and Rural Development website:
www.agriculture.alberta.ca

Alberta Environment and Sustainable Resource
Development website (diseases):
[http://esrd.alberta.ca/fish-wildlife/wildlife-diseases/
default.aspx](http://esrd.alberta.ca/fish-wildlife/wildlife-diseases/default.aspx)

The Animal and Plant Health Inspection Service
(APHIS) website for updates on CWD in the
United States:
www.aphis.usda.gov

Or telephone the Alberta Ag-Info Centre
Call toll free: 310-FARM (3276)

Prepared by
Animal Health Programs
Alberta Agriculture and Rural Development

More information, contact:
Alberta Ag-Info Centre
Call toll free: 310-FARM (3276)
Website: agriculture.alberta.ca

05/15/100