CHRONIC WASTING DISEASE (CWD)

AWA believes there is an urgent and vital need to implement a CWD eradication plan.

AWA does not support the game farming industry for many reasons, including because it is responsible for passing CWD into the wild and infecting North American deer, elk, and moose with the disease.

AWA requests that the following measures be introduced without delay:

- Organize a public workshop with academics, wildlife biologists and conservation organizations to map out a course of action to eliminate CWD and the source of infection for wildlife in Alberta
- Closure of the initial sources of CWD – the game farms of Saskatchewan and Alberta, especially those known to be infected.
- Physical closure of infected farm sites for at least two decades or until science indicates they are no longer infected.
- Elimination of grain storage on the ground in infected areas.
- Precautions provided to hunters to protect themselves when handling animals in infection regions.
- Development of a professionally handled CWD eradication plan, including targeted culling of deer and elk herds in some locations, guided by testing results.
- Development and implementation of a natural predator restoration plan.
- Investigation, along with professional biologists, of the efficacy of controlling CWD by natural means, through encouraging natural predator/prey relationships to redevelop in infected areas.
- Adequately funded cooperative team of scientists from CFIA and Alberta and Saskatchewan to immediately and effectively tackle this dire situation.
- Support for university and government laboratory research into prions, with emphasis on CWD.
- Public outreach and education programs developed with science-based information.

Points of Emphasis

1. Alberta is ignoring the accumulating research showing that CWD prions adhere to soil minerals and are thus retained in topsoils where they may reinfect (Johnson et al. 2006). Therefore, the spread of CWD may be further exacerbated by hunters field dressing which may lead to contamination.

2. Alberta should issue a set of cautions to hunters hunting in infection areas, including how to carry out all field dressing and meat handling, wearing protective gloves.

3. CWD has already jumped the species barrier to Moose and has the potential to spread to other species (such as Woodland Caribou which are already under huge stress or humans). BSE (mad cow disease), a related prion disease, was not known to infect humans until it "jumped the species barrier" and killed over 200 people in Britain and Europe, some 20 years ago

4. CWD may be entering the human food chain not only through the consumption of infected elk and deer, but through grains. During fall harvest, grains are often stored temporarily in heaps on the ground where they attract wildlife. Deer and elk will leave behind saliva, feces and urine that may then be transferred to livestock or directly to humans. Most of the grain produced in Alberta and Saskatchewan comes from areas overlapping known CWD-infected WMUs.

5. The sale of velvet antler has a great potential of transmitting the disease to humans. Velvet antler is known to contain prions in animals infected with the disease (Angers et al. 2009).

DEFINITIONS

CHRONIC WASTING DISEASE (CWD)

CWD belongs to a family of prion diseases known as transmissible spongiform encephalopathies (TSEs). These diseases form holes and spaces in brain tissue (ESRD 2014). This family of diseases also includes mad cow disease (bovine spongiform encephalopathy) which affects cattle and humans.

GAME FARMING

Game farming is the domestication and commercial marketing of native and non-native wildlife for a variety of products, (including meat, hides, and antlers) or for paid hunting. It is an industry designed to privatize and domesticate wild animals, to own and raise them for profit (Rowledge, 1991). Game farming involves intensive, small pasture production or extensive, wide range production of captive wild animals.

BACKGROUND

CWD is a prion disease and is the elk, moose, and deer version of mad cow disease (ESRD 2014). It is fatal in all cases and there is no treatment or vaccine (ESRD 2014). The disease spreads from animal to animal through faeces, urine, saliva and blood (Mathiason et al. 2006). Both direct (animal-to-animal) and indirect environmental transmission of the disease is possible (CFIA 2015). There is no treatment or vaccine.

Canadian efforts to control the disease have largely been to eradicate herds in the vicinity of where the disease is detected. CWD is a disease which is reportable in Alberta under the *Animal Health Act* and in Canada under the *Health of Animals Act*. Since 2001, the CFIA has been responsible for a CWD disease control and eradication policy (CFIA 2015). This involves placing affected farms under quarantine and then evaluating, euthanizing, sampling and killing the remaining animals as well as animals that have left the affected herd. The province of Alberta provides support by providing information about animal movements, lab analysis, and supporting the CFIA in their control measures. From 2005-2008 Alberta used what they called an "aggressive" program to find and removed infected deer. This involved using hunters and government to cull deer in infected areas. In 2007 and early 2008, more than 5,000 deer were killed by hunters and another nearly 3,500 through culls in wildlife zones that lie roughly between Wainwright and Empress. To this day, hunters submit deer heads in areas where it is mandatory to do so under the CWD surveillance program.

In the U.S., deer eradication programs in areas of CWD infection have largely relied on hunter kills. None of these areas have shown decreases in infection. This is largely due to the manner in which the disease is spread. As mentioned before, direct animal transmission occurs when the infectious agent is shed in faeces, urine, saliva and blood (CFIA 2015). However, indirect transmission of the disease is also possible. Prions may enter soil from diseased live animals or decomposing remains and may be preserved in soils, particularly clay soils. Their adhesion to clay particles appears to be so tight they may be maintained in surface soils for up to two decades and they are available to reinfect as deer graze (Johnson et al. 2006). In fact, oral transmissibility of the disease increases as the prions bind to soil particles (Johnson et al. 2007).

This is where the use of hunters to cull cervids in infected areas is concerning. While hunters may submit heads for CWD testing, they will be leaving gut piles and bones in the field where CWD may be passed on to wildlife through direct contact or contact with contaminated soils. Hunters may also transport contaminated carcasses and thus introduce CWD to clean sites. Professionally handled eradication will undoubtedly remove entire bodies and dispose entirely of any that indicate CWD. The hunter cull method may be considered a cheap way of being seen as dealing with CWD, but it could also be the worst way as it could potentially encourage the spread of the disease instead of stopping it.

Another alternative that has not yet been explored is the control of CWD by natural means, through encouraging natural predator/prey relationships to redevelop in infected areas. This could have the effect of removing infected animals at far less cost and possibly greater efficiency than through expensive culling programs.

HISTORY

CWD was first detected in 1967 in a research facility in Colorado. It is thought to have originated from a prion that causes scrapie in domesticated sheep, likely in an area around Colorado (ESRD 2015).

The Government of Alberta opened the door to game farming in 1981 with its internally developed Wildlife Policy. The government then legalized game farming in 1987 (without any public review or environmental or economic impact assessments) and within just one year, the number of game farms increased to 65.

CWD was introduced into Canada along with game farm animals in the late 1980's. In 1992, Dr. Valerius Geist, then professor of environmental studies and biology at the University of Calgary, warned it was inevitable that tuberculosis-infected elk would escape from captivity, and act as the "disease bridge" between livestock and wild animals. "We know animals are going to escape and mingle with those in the wild," said Geist. CWD was first confirmed on Canadian game farms in 1996, at a Saskatchewan elk farm (CFIA 2015). It has been routinely detected in Saskatchewan since. 1996 was also the year that Alberta began to test wild deer and elk that displayed abnormal behavior (ESRD 2014).

Like wildfire, by 1997 CWD had spread to 19 Saskatchewan game farms, requiring the subsidized slaughter and incineration of 3,500 elk. In 1998, an annual surveillance program where hunters submit deer heads in mandatory deer head submission areas was implemented and is ongoing to this day (ESRD 2015). In 2000, a CWD disease control and eradication policy was implemented by the Canadian Food

Inspection Agency (CFIA) (CFIA 2015).The first CWD case in the Canadian wild turned up in 2001 in a Saskatchewan mule deer near Lloydminster, on the Alberta border.

In 2002, CWD was identified in farmed elk in central Alberta. Federal CWD eradication programs killed all the farmed cervids that had moved on or off of the farm in the past three years (ESRD 2014). The disease was not detected in Alberta elk farms again until January 2015, when it reappeared in a farm in central Alberta (CFIA 2015).

By 2004, 40 game farms in Saskatchewan and three in Alberta had incurred CWD, and it was now in the wild in three parts of Saskatchewan. In 2004 game farms reached a high in both provinces, with 800 farms (60,000 fenced animals). In 2005, three cases of CWD were found in wild deer in AB (ESRD 2015). This resulted in a slew of herd reduction programs in 2005 and 2006 in the vicinity, resulting in the slaughter of (486, 162, 1439, and then 298) a total of 2385 deer in the span of two years. Since then, the total number of CWD cases detected in wild deer in Alberta has been 297 (ESRD 2015). In January 2013, the first detected case of CWD in moose was reported (ESRD 2015). As of 2015, CFIA has declared the situation “out of control” in Alberta and Saskatchewan and has apparently pulled back from further attempts at eradication.

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