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From: Steven Pelech <spelech@shaw.ca>

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Subject: 25SE23_URGENT_Scientific rationale for not culling the ostriches at the Universal Ostrich Farm

To: <aafc.minister-ministre.aac@agr.gc.ca>

Dear Honourable Heath MacDonald,

I am writing to you at this late hour in the hope that you will take action to prevent the unwarranted slaughter of 399 ostriches on the Universal Ostrich Farms site. As the Minister of Agriculture and Agri-Food, this slaughter is being performed by the Canada Food Inspection Agency on your behalf. I understand that the original decision was made by a prior minister for your present portfolio, but the buck stops with you so to speak. As an expert scientific witness in the courts on this case, I am fully aware of the arguments presented by the CFIA experts on the matter, and you may not be aware of how deficient and off-base the science and even the politics that has been advanced by the CFIA. What ever happens to these ostriches, the truth will eventually prevail, and it will severely tarnish the reputation of the CFIA in the eyes of a large portion of Canadians and the world.

I have written extensive scientific reports on the influenza outbreak at the Universal Ostrich Farm, and will only summarize a few points below why this culling course of action should be reconsidered. On December 31st, 2024, the Canadian Food Inspection Agency (CFIA) issued a cull order for all of the 399 ostriches residing at the Universal Ostrich Farm (UOF) remotely located in central British Columbia near Edgewood. This was based on positive PCR results from two dead birds tested for the H5 gene of influenza virus within 41 minutes of the agency's notification of the results from a local testing lab in BC. This was despite a lack of data that the influenza virus was positive for the N1 gene or that it was in fact a highly pathogenic avian influenza (HPAI) virus. Subsequent full genome sequencing confirmed that the recovered virus was a hybrid mix of high and low pathogenicity H5N1 virus. HPAI typically kills about 85% of an infected bird flock, whereas only 15% of the UOF ostriches succumbed.

By January 15, 2025, there was no further evidence of sickness from the H5N1 virus in the UOF flock. More than 8 months later, the ostriches have remained healthy and disease free. Nevertheless, the CFIA has remained committed to the extermination of the ostriches despite a large public outcry and even the requests of the US Administration for Health and Human Services (HHS) to preserve these birds due to their scientific value.

While the ostriches presently offer no threat to each other, wild birds, other animals and people, the CFIA has maintained in court proceedings with their experts that the ostriches may be still be asymptomatic and shedding active virus. Yet, the CFIA has forbidden testing of the ostriches to test this highly unlikely hypothesis that runs against what is commonly known about the spread of influenza virus. Moreover, the agency has expressed concerns that the soil of the UOF may also contain active virus that could infect other wild birds even a year later. Such claims are based on a single study of highly filtered water (which removed any virus, fungi or other microbe above 200 microns in size) which was kept in the dark and near freezing temperature for only up to a year. It did not represent real-life conditions where sunlight with uv and microbial action in soils would quickly degrade an influenza viral particle.

It is also noteworthy that despite the roosting and fouling of hundreds of school yards and parks in BC by hundreds of thousands of wild migratory ducks and geese infected with HPAI, there have been no government warnings about the risk of H5N1 influenza to humans and pets from their excrement in the past few years. This is for good reason, because the chances of spread of influenza in this way is exceedingly rare.

Over the last 4 years, there has been 533 Canadian outbreaks of avian influenza mainly at commercial poultry operations. Imposition of the stamping-out policy by CFIA has resulted in the destruction of at least 14.4 million domestic fowl on farms in Canada. The claim has also been made by the CFIA that this policy remains the only viable strategy to control the spread of the highly pathogenic avian influenza virus. This is despite the option that the World Organization for Animal Health (WOAH) allows for regaining of “disease-free” status after one year for a zone if an HPAI infection is allowed to “burn-out” instead of being stamped-out. The UOF is located in its own zone, so the outbreak at this farm has not materially affected the poultry industry international trade for other farms in BC or elsewhere in Canada.

The CFIA has claimed that the H5N1 virus genome sequenced from the genetic material recovered from two of the dead ostriches from the UOF represent a unique assortment of low and high pathogenicity virus, and proceeded to make the unsubstantiated and unlikely claim that this hybrid virus may permit infection and sickness of other species such as humans, when in fact the sequencing studies demonstrated that any mutation that might permit this was not actually found in the sequence of the recovered virus. In the courts, CFIA experts revealed under cross-examination that there have actually been about a hundred cases of reassortment of the H5N1 virus recovered from the 533 outbreaks of the virus on commercial poultry farms in Canada in the last few years. These reassortments clearly developed in the wild bird population and not in the few commercial birds that were tested on farms in Canada, since this is normally a very rare event and would have to be occurring within a large population of birds.

Some have suggested that the CFIA’s handling of the UOF affair as an example of government over-reach, whereas the agency has maintained that their actions are to safeguard the health of Canadians and preserve the poultry industry in Canada by preventing the spread of HPAI. However, the evidence of the effectiveness of the stamping-out policy, which has resulted in financial hardship and closure for many smaller poultry farms, is questionable, especially in view of the wide-spread distribution of the virus in wild birds and other animals in North and South America.

The CFIA has admitted on their website that “there is no evidence to suggest that eating cooked poultry or eggs could transmit the virus to humans.” In fact, with the current HPAI pandemic that started in 2021, there has only been one H5N1 case in a person in Canada, who was a 13-year-old BC girl that recovered. There have been about 70 cases of H5N1 in the US during this time with only one fatality in a 65-year-old male with comorbidities. Most US cases were mild, and arose in dairy rather than poultry farm workers. Meanwhile, the CFIA has propagated the idea that about half of the people that get H5N1 influenza die from it, based on historical data in Asian countries and not North America or Europe.

In a twist of irony, the main business activity of the UOF is the production of antibodies against infectious diseases and other health by-products found in the eggs from the ostriches. The UOF had been engaged in research into the creation of antibodies against the spike protein of the SARS-CoV-2 virus, which is responsible for COVID-19. All of the COVID-19 vaccines on the market have targeted the spike protein. What makes ostriches ideal for industrial scale antibody production is that the yolk of their large eggs is

rich in a type of antibody that is uniquely highly stable to almost boiling and very acidic and basic conditions.

Ostriches can live up to 75 years, and each female can produce 30 or more eggs in a season. Most of the ostriches at the UOF are more than 20 years-old and could lay eggs for up to 55 years. However, it can take up to a few years before an ostrich is comfortable around its handlers, and these prehistoric creatures are well-equipped with clawed toes to take on even lions in wild. Ostriches are the largest and heaviest of the bird species, with weights that can exceed 150 kilograms.

The typical purchase price of a full-grown ostrich is over \$6,000, but if the antibodies produced in an egg are against an important target protein in research, the purified antibodies recovered from a single egg could fetch tens of thousands of dollars in the research reagent market. This estimate is based on my own experience of the value of antibodies in the research and diagnostic markets against infectious disease pathogens and proteins that are implicated in other disease processes such as cancer, diabetes and neurological disorders.

With almost anything the ostriches are immunized with, such as proteins from an infectious pathogen, they will produce antibodies in their blood and eggs that specifically target a virus, bacteria or fungi. Such antibodies are valuable for research purposes, for development of diagnostics such as rapid antigen tests, and even therapeutic antibodies to treat an infection.

Recently, the provincial ministry of agriculture in BC has created a 2.5 million dollar fund for Fraser Valley poultry farms to install air filters and uv lights to protect their birds from HPAI. One of the applications that was being studied with a UOF research collaborator from Kyoto Prefectural University in Japan was the development of anti-spike antibody-coated air filters and masks that could capture the SARS-CoV-2 virus and detect the presence of the pathogen. With the recovery of the UOF ostriches from H5N1 influenza virus, these birds and their eggs are likely to be replete with antibodies against the virus, which could be used to coat air filters and masks to protect the commercial bird flocks and their handlers. Testing by Kinexus Bioinformatics Corporation in Vancouver of UOF ostrich egg yolks recovered in the summer of 2024 has confirmed that the ostriches possessed antibodies, likely from previous exposures to H5N1 influenza viruses.

Due to the overzealous application of the stamping-out policy in Canada and other countries, there are very few flocks of birds in a controlled environment where the effectiveness and duration of naturally acquired immunity to the H5N1 virus can be studied. As 85% of the ostriches survived the last outbreak of H5N1 infection on the UOF site, the remaining birds clearly have natural immunity, a fact acknowledged by the CFIA. Robert Kennedy, Jr., the Director of the US HHS has reached out a few times to the Canadian Government requesting that these valuable birds be saved for their scientific importance.

In view of these and other considerations, I hope that you can step in and suspend the culling of these valuable birds, and allow a proper assessment of their value to Canadian science and also launch a review of the stamping out policy with respect to its effectiveness and harms.

Sincerely,

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