

## **CHRONIC WASTING DISEASE: INTERNATIONAL IMPLICATIONS**

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### **Introduction**

To the best of current global veterinary knowledge, chronic wasting disease (CWD) of deer has been confirmed only in the United States of America, Canada and South Korea. Claims of freedom from this disease in New Zealand are based on the current absence of the clinical syndrome or laboratory diagnosis. Other deer farming countries are obviously aware of this disease. In New Zealand which has the world's largest deer industry, there has been a heightened awareness and growing concern amongst farmers, veterinarians and regulatory authorities about the potential impact of this disease on market access, and the effect the disease would have on their industry if it were diagnosed.

Because of the unique nature of CWD, it is not being ignored internationally, despite the relatively small size of the global deer industry. There is sufficient evidence that this disease is one of the most perplexing, complex and potentially serious new diseases facing any livestock industry, scientists and veterinary professions anywhere in the world. By any measure, this disease possesses many of the least desirable attributes one could wish for from an animal disease:

- it results in death
- there is no live animal test
- transmission is vertical and horizontal
- it survives in the environment
- the incubation period is long, allowing it to spread insidiously between herds
- it has wildlife reservoir hosts
- it is related to serious, high-profile spongiform encephalopathies of other animals including man
- the disease has spread insidiously from the country of origin to a second and now a third country
- it is a difficult disease to research

However, concerns go substantially beyond merely a technical challenge to science, or a health problem for the North American and Korean deer industries. The disease will touch aspects of every deer industry in the world, either directly or indirectly.

This presentation will address CWD from the perspective of countries that do not currently have the disease from largely a New Zealand perspective, but will incorporate implications to other industries to illustrate the impact this disease is having or is likely to have globally.

### **Stakeholders potentially affected**

#### ***Producers***

The international information network ensures that deer producers worldwide very quickly become aware of important diseases such as CWD that might directly or indirectly affect their farming security.

Producers in New Zealand are aware that red deer have been imported from Britain and Europe, causing earlier concern about potential BSE transmission to deer. Fortunately these concerns were unfounded. However, wapiti have been imported from North America, causing real concern about CWD. Farmers have been advised by MAF officials that there is currently no evidence that CWD is present in New Zealand. However, there is still a concern, based on the long incubation period, coupled with knowledge that trace-backs from infected herds in Canada suggest that infection might have entered one herd supplying live wapiti to NZ in 1996.

This prompted an investigation by MAF into the current status of all wapiti imported from North America. It appears that 14 live deer still exist from those shipments. The only deer from the suspect origin farm died a number of years ago, and a post-mortem with laboratory diagnostic confirmation excluded CWD. The current location of the remaining 14 live deer is known and their owners have been advised of the need for surveillance and veterinary attention in the event of animal health problems. To date, no other farms of origin of wapiti from Canada have been diagnosed with, or linked to, CWD. This example highlights the justification for state veterinary authorities to communicate well with one another.

Thus, because of the insidious nature of the disease, there is a certain anxiety amongst deer producers in New Zealand for their own herds. However, the concern lies more broadly amongst the entire industry about the impact the disease may have on markets, based on observations of the impact of BSE on markets for beef. This will be discussed below.

MAF and the veterinary profession have heightened the awareness of producers about this disease and its clinical manifestation. Farmers are actively encouraged to contact their veterinarians if they see deer showing nervous or chronic wasting signs. However, there is a dilemma for farmers in reporting suspect cases, with some probably preferring to ignore or dispose of suspect cases rather than risking diagnosis.

#### ***Veterinary practitioners***

MAF and the Veterinary Association have heightened awareness about CWD to the practising veterinary profession, including that pneumonia may be the presenting sign of terminal cases. Veterinarians have an important role in informing farmers of the need for surveillance, and encouraging them to seek veterinary attention to sick animals, particularly those with neurological signs and wasting. Veterinarians are currently paid \$100 by MAF for specimens submitted specifically for investigation of spongiform encephalopathies, including those suspected in deer.

### ***Deer Farmers' Association***

The NZDFA has been advised by MAF of this disease and its implications for the industry. The Veterinary Association also has been liaising with the Deer Farmers' Association to maintain awareness, and the need for the veterinary profession and industry to work together to heighten surveillance so NZ can meet criteria for disease status declaration according to the OIE International Animal Health Code, when the chapter on CWD is completed.

Amongst the issues discussed has been the risk of international movement of deer producers. Deer farmers frequently host producers from other countries, and it is important for them to know the risk of transmission of this disease through clothing and footwear, despite that border Biosecurity should detect these risks before they reach the farm. However, farmers should be advised to provide alternative clothing and footwear, particularly for the visitor known to be from an infected farm in North America or South Korea.

### **Regulatory Authorities**

Regulatory authorities in all countries having imported wapiti and/or deer from Canada or the USA should be viewing developments with this disease and preparing contingency response plans.

### ***Trace-back***

Biosecurity authorities would be advised to trace back herds of origin of any deer or wapiti imported from North America, and to attempt to locate those deer and identify herds which have contained those deer at any stage during their time in their new country, as carried out in New Zealand. Clear identification of these animals would be a pre-requisite. This may be a timely reminder of the need to provide permanent identification on all animals that have been directly imported.

Semen and embryos have been imported from North America and a similar trace-back should be undertaken with those products and their results.

Many countries do not require farmers to keep good records of stock movement, and the validity of these trace-backs may not be particularly high.

### ***Diagnostic laboratory and practitioner awareness***

Information about the disease from other countries is essential for those involved with first referral diagnosis of the disease. Clinical manifestation of the disease should be brought to the attention of all rural practitioners, and there should be regular updates on research and clinical findings from affected countries. The need for specimens to be collected for surveillance for disease status declarations must be stressed by regulatory authorities.

### ***Contingency plans***

Biosecurity authorities, in this case in consultation with industry stakeholders, should have in place a contingency plan in the event of a diagnosis of the disease. It would appear that if serious attempts are to be made to contain this disease, whole herd slaughter, particularly as applied in Saskatchewan, Canada, and some states in the USA, would be necessary.

For New Zealand this would raise a serious issue of "who pays?" There is an established political philosophy in NZ and some other countries, of "industry responsibility", and a belief within the community at large that events and problems on farms affect only farmers. This, of

course, is far from reality, since the community benefits in numerous ways from agricultural production, even in non-exporting countries.

The deer industry in every country is relatively small. The ability to raise significant amounts of money to fund compensation for slaughter is exceedingly limited. Thus, if left to the industry it is unlikely that the industry could afford to contain this disease. MAF and the government would therefore need to be persuaded that state funding is the best course of action. A pre-emptive risk management plan should be in place to avoid delays in the event that a diagnosis is confirmed. Lobbying of politicians should be undertaken in advance.

### ***Disease status declaration***

It is important for international trade in deer products that the country of origin is able to declare its disease status, based on valid sampling criteria applied to various diseases in the OIE International Animal Health Code. A code chapter on CWD is currently in preparation. Lack of clinical evidence of disease may not be sufficient to convince importing countries of disease status. Thus, there is a need for regulatory authorities to implement targeted surveillance. This, of course, requires money and currently the inducement referred to earlier is not having a major impact on numbers of animals undergoing surveillance in New Zealand.

Furthermore, privatisation of diagnostic laboratories raises an issue about privacy, ownership of information and payment for surveillance. Some of these issues are being grappled with at present in New Zealand and elsewhere. Ultimately, disease declaration status will have an impact not only on deer products, but also on export of live animals, semen and embryos.

### ***Implementation of import bans***

The New Zealand MAF was quick to prohibit importation of live deer, semen and embryos from Canada after the implications of CWD were confirmed. In addition, in February 2000 the importation of velvet antler from Canada was banned. It was common for Canadian exporters to send product to New Zealand for processing in one of our processing plants. There was a risk, albeit extremely minor, that this could introduce CWD to New Zealand. This step, however, was popular within the industry because the risk of re-labelling Canadian product as New Zealand product was removed, thereby protecting the reputation of New Zealand-produced velvet antler as being authentic to origin (see below).

### ***The dilemma of public awareness***

There is a balance between public awareness and causing distress amongst the farming fraternity and the deer product-consuming public at large. Because CWD is a spongiform encephalopathy creates particular difficulties in convincing consumers about food safety, given the experience in the United Kingdom with BSE. For example, in 1990 the then Associate Minister of Agriculture appeared on television with his daughter, advising the population that he encouraged his daughter to eat British beef and would not do so if there was a risk of human health. Subsequent linkages with variant CJD no doubt would now prompt a different response. This type of experience only serves to heighten the scepticism of public statements made by officialdom and politicians. Also, science is not immune to scepticism from consumers who rightly observe that science does not have all the answers (and that is particularly so with CWD), and not all science-based claims are fail-safe. Examples such as the thalidomide disaster, from decades ago, still undermine the public's faith in science. Science funded by interested or affected parties is also regarded with more scepticism than independently funded research.

### **The market for velvet**

The ban of importation of North American velvet to Korea is, on the surface, good news for other velvet producers, including New Zealand that currently exports more than \$40million worth of velvet antler.

However, there are potential implications of awareness of CWD in the Korean and North American velvet markets:

- Industries must be cautious about criticising competitors because those industries or sectors within them may choose a weakness that exists elsewhere in the suppliers' industry, such as farming methods, welfare or environmental concerns, to denigrate the competitors' product, or to enhance the image of their own product.
- Branding of velvet by origin to differentiate it from product from other countries is important. Thus, the banning on importation of velvet antler to New Zealand for processing is an essential step from a marketing viewpoint for the New Zealand deer industry. However, this alone may not protect from generic perceptions of the product;
- There is a risk of consumer resistance. Lessons learned from BSE debacle in Britain and Europe and the link with variant CJD could frighten the consumer into suspecting that CWD could behave in the same manner and therefore put human health at risk. The technical statements that this is likely to be a very low risk are unlikely to appease wary consumers. Any risk is often considered to be too high. Indeed, statements by scientists about risk of transmission to humans should be very carefully considered because they may easily be deliberately or innocently misinterpreted. These concerns relate not only to the traditional Asian markets, but also to the newer markets of North America being developed by both North American and New Zealand velvet antler marketing interests;
- The occurrence of CWD in Korea will heighten the awareness of this disease in that country, and is likely to have a negative consequence amongst consumers and possibly even the traditional medical profession on all velvet consumption regardless of the status in countries of origin;
- Common commercial practice is for buyers to use all methods possible to reduce their purchase price. Thus, CWD could be used as an excuse for driving down the price paid to the producer. It is likely that this will occur not only in countries where CWD is present, but also other velvet producing countries.

Thus, CWD currently has implications for all velvet industries, regardless of CWD status. This is a factor that farmers must consider when reviewing or deciding farming strategy. Some may conclude that the combined risks of consumer concern about disease and welfare are too great, and choose not to farm stags for velvet.

### **The market for Venison**

Of greater concern to the New Zealand deer industry is protection of venison exports, which currently exceed \$240 million annually and are predicted to grow substantially into the future. The predominant reason is the association between this disease and BSE, and the link between BSE and variant CJD. Food safety concerns go beyond the boundary of official disease status declaration. They are a direct personal concern to the consumer. Potentially more seriously for the NZ deer industry, is selective buying, on claimed food safety grounds (but really based upon pressure to support local suppliers), by large retail chains to achieve competitive advantage in the market. These retail chains have significant buying power, and can act independently of

officialdom. They can respond to local producer's pressure to market local produce, even if the cost of production and therefore price is higher. They can respond extremely quickly to changing circumstances, without the need for technical and scientifically robust justification for their decisions, unlike state veterinary authorities. Thus, they may discriminate against outside suppliers who are only even remotely associated with the disease.

Food safety is the number one concern amongst consumers of animal products. The BSE debacle has done irreparable damage to the image of red meat. Paradoxically, venison is currently selling strongly on the European market in particular, because it is not associated with BSE. However, heightened public awareness of CWD in consumer countries could substitute concerns about BSE, and put demand for venison at equivalent risk to beef. It is understood that there is little or no export of venison from North America. However, the long-term future for any deer industry, even if markets are entirely domestic, must be predominantly for venison if that industry is to grow in the future. Thus, internal markets in North America for venison could well be threatened by this disease, if not already the case. In the short term this is more likely to affect the internal North American market than the European market because of high profile publicity in the national media about this disease, and the emotive issues related to depopulation of deer herds, fuelled by media interest in expenditure of tax-payer funds. Overseas suppliers of venison to the North American market will be affected by generic association of the product with deer, regardless of country of origin.

### **Conclusion**

It is tempting for deer industries in countries that do not have CWD to be relieved and use that status for competitive advantage in the marketplace. However, it may not be prudent to allow complacency or smugness to overcome the reality, which is that CWD has implications to all deer industries throughout the world. It can potentially affect the economic viability of deer farming directly through the need to depopulate if the disease is diagnosed. But further, the impact that this disease could have on safety perceptions of the principal products from the deer industry, velvet and venison, could severely erode consumer confidence, and therefore threaten deer industries that do not even have the disease.

It is therefore essential for deer industries worldwide to work collectively in prompting awareness and research and supporting appropriate management of this disease where it exists, so that the longer-term sustainability of the global deer industry can be secured.