

BSE: An outsider's perspective.
***A look at health and economic effects and Canada's
inadequate response to these issues.***

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2006 & updated Foreward Sept 2009

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As of May 2009, authorities in Canada confirmed the 16th case of mad-cow disease. CFIA advised that “the animal was identified at the farm level by the national surveillance program, which has detected all BSE cases in Canada.”

Although CFIA and the national surveillance program take credit for finding these cases, the case was identified on farm as were most, perhaps all, of Canada’s previous cases. It appears they were found as a result of ranchers or dairy farms that chose not to follow Ralph Klein’s advice to “shoot, shovel & shut-up.” The findings therefore were to the credit of responsible producers rather than the national surveillance program. Many of these cases were cows born after the feed-ban went into effect, demonstrating the shortcomings of the feed ban or practices.

The steady appearance of additional on farm cases appears to be troubling CFIA who proposed to Treasury Board in 2007 that financial incentives to producers to support sampling be eliminated. This would presumably leave producers with the Ralph Klein solution. Treasury Board deferred the proposal citing “communications risks” (read public perceptions?).

On farm identification means that the diseased animal does not enter the food chain. Unfortunately, due to long and varied incubation periods before infection provides outward signs, many of an infected animals herd-mates, who may also have had contaminated feed, have already gone into the food chain. Most of these herd-mates would not have been tested for BSE at slaughter.

Some new research from Alberta which might lead to early diagnosis of TSE’s in live cattle and elk, has found blood indicators of disease, months prior to any indication of clinical signs.

The U.S. border has remained open for partial exports. Few initiatives to increase slaughter capacity in Canada have been successful due to lack of commitment by producers. Some producers, aware of marketing opportunities for sale of grass-fed, no growth hormone, no feed based antibiotics, have processed and sold such products, labeled as such. CFIA recently ordered ranchers stop using a federal program to certify beef as free of artificial growth hormones, ruling the label is strictly for European export. “Producers who followed rules believing the label could be used in Canada say the decision means a consumer in Vienna can barbecue beef labeled as growth hormone free by the Canadian government, but someone in Vancouver, can’t.” (Cam Fortems, Country Life in BC, Jan 2008)

The agency and some producer groups are still apparently using the tired old misleading mantra that testing or labeling (on the basis of verified practices) implies that other product is unsafe. We should have the right to informed choice.

The U.S. surveillance program has its own problems. Video from a slaughter-house, resulting from a recent investigation by the Humane Society is viewable at www.hsus.org (warning: graphic cruelty) The investigation documents abuse of cows, violations of law and

shortcomings in the inspection process. The embarrassment for the USDA is that the plant has been the second largest supplier (100 million pounds in 5 years) to the USDA's National School Lunch Program which has supplied school districts in 35 States. As the investigation shows, USDA "inspection" is not close inspection or testing of any kind. Many assume that inspection is testing. Since any testing for BSE is entirely voluntary on the part of the slaughter-house (they get to chose which, **if any**, to test) it may well be that the high risk animals processed in this plant have not been tested at all.

On November 19 2008 the National Farmers Union of Canada released an extensive overview of Canadian cattle production which expands on many of the (non BSE) issues mentioned in the following article. The report, "The Farm Crises & the Cattle Sector" is available at <http://www.nfu.ca/briefs/2008/LivestockreportFINAL.pdf> The report gives historical reasons for the depressed cattle business. Much of the industry blames "the perfect storm" of high grain prices, high fuel costs, high Canadian dollar and BSE. The NFU report demonstrates that these factors are less significant than a number of issues that have been in the control of the industry or the Government. The NFU report should be required reading for producers and anyone involved in or interested in the industry.

Preamble

We became involved in the BSE issue when Canada's first case was detected in May 2003. The subject was of interest as a personal health issue regarding beef consumption and because we had planned to acquire/develop a small beef herd in addition to our existing sheep flock. We began collecting information on BSE from a wide variety of sources in an attempt to answer our own questions about safety and whether we could be certain that we could develop a BSE free beef herd.

Although our research gave us high expectations of being able to raise a BSE free herd, processed locally and sold to discerning purchasers, our plans are on hold as new regulations are soon requiring all meat processing at inspected facilities. Ironically these new regulations, which the B.C. Government fast-tracked with the claim that it would address BSE concerns, will do no such thing¹ while driving small meat processors out of business. (See letter to Gov't re proposed regulations and other recommendations regarding BSE dated Jan 30 2004)

The new meat-inspection requirements can be expected to destroy most cut & wrap, farm gate sales in small communities, leaving few if any economic sales options for small producers.

Most of our early concerns about BSE and its effect on producers and taxpayers are still intact. The beef industry is still largely in denial although there are now some producers calling for substantial or full BSE testing. Canadian Food Inspection Agency is resisting these calls and refusing to allow processors to test for BSE although such testing could regain foreign markets. Those markets remain unconvinced that beef is safe, or that adequate testing is being done to ensure that safety.

BSE-- Where are we Now?

Spring 2006. Although U.S.A. & Canada have had further recent cases of BSE, media coverage has been negligible. The US border has partially reopened for live & processed meat under 30 months. The industry and officials, CFIA (Canadian Food Inspection Agency) & USDA (U. S. Dep't of Agriculture) continue to tell us that "our beef is safe." Perhaps most of the public and the producers believe that "things have nearly returned to normal."

Risks certainly remain and will be looked at from the public health point of view and from the risk to the Canadian Industry and the taxpayers.

Health Risk

Human health risk of contracting vCJD (variant Creutzfeldt-Jakob) from contaminated beef products is considered by most experts to be small. vCJD is the human form of a TSE (transmissible spongiform encephalopathy) or (spongy brain wasting disease.) BSE (bovine spongiform encephalopathy) in cattle, CWD (chronic wasting disease) in deer and elk and scrapie in sheep and goats are other TSE's all associated with the presence of an abnormal protein or prion. vCJD is believed to be caused by the consumption of BSE infected products. In humans vCJD appears to have a long incubation period; about 161 people worldwide are believed to have died from the disease.

In the U.K. research had shown that vCJD had occurred in a portion of a 37% segment of the population with a particular genetic makeup. Later research has indicated that via blood transfusions an additional 50% segment with a different genetic makeup have susceptibility.² Recent British studies have suggested that vCJD could lie in the body for many years without showing symptoms³.

U.K. research has shown that thousands of unsuspecting British may be harboring vCJD. Estimates are an extrapolation of results of tests on more than 12,000 appendix and tonsil tissues.⁴ It is not known whether any of these will develop into full vCJD. Thousands of others in the U.K. were being notified that they were likely recipients of vCJD tainted blood or plasma.⁵

Even if BSE was effectively stopped in its tracks, it is clear that, until there is a blood test that can detect vCJD, blood transfusions and products, organ transfers, and some surgical procedures, are a continuing vector for the spread of vCJD.

Scientists have little available information on the real incidence of vCJD, which shares many symptoms with Alzheimer's. Unlike Britain, North America does not require post mortem tests which could identify whether the substantial increase in Alzheimer's,

could be attributed in part to vCJD⁶. For those who suspect that “don’t look don’t find” is the unstated Agency position, the announced closure of a U.S. Government Lab that had done groundbreaking work on human brain disorders (similar to mad cow disease) for over 40 years,⁷ gives confirmation. On reports that the lab’s rare collection of brain samples might be destroyed, a Canadian researcher, Dr Neil Cashman, then with the University of Toronto’s Center for Research in Neurodegenerative Diseases, described the collection as priceless; *it would be like destroying an art museum. There’s all this information and insight that’s locked up in these tissues.*⁸

While minimizing human health concerns, and suggesting that the toll is no greater than the deaths mentioned above, industry and regulatory bodies regularly invoke the mantras, “our beef is safe” and our programs are based on “sound science” Unfortunately the US & Canada do not test enough animals to be able to make the “safety” claim and the “sound science” claim is largely a PR position adopted by an industry which (as we shall see later) has a long history of denigrating, ridiculing and threatening “science” that might impact their markets.

Canada and the U.S. reluctantly began expanding minimal BSE testing programs after several positive findings starting in 2003. The levels of testing are substantially below those undertaken by Europe & Japan, and well below those recommended by the “expert panel.”

Industry and regulatory spokesmen insist that any risk of infection from untested cattle is removed with the removal of SRM’s (specified risk materials) at processing. SRM’s are generally various parts of the central nervous system including backbone and brain. The removal of SRM’s is often described as a “firewall” that makes product safe. Having heard CFIA and industry press releases, the public (as I was) is probably under the impression that all potentially infective tissue is removed from all processed cattle. A cursory visit to the CFIA website would tell you that “these tissues are removed from all animals slaughtered for human consumption.” Observation of backbone-in cuts at the meat counter and further enquiry would reveal that the SRM removal only applies at Federally inspected plants and only on animals 30 months or over.

Although Europe & Japan have detected BSE in animals as young as 20 months, and the “expert panel” recommended SRM’s be removed from any animal above 12 months, North American regulators have decided SRM’s only exist in animals above 30 months.

The “firewall” may be as porous as the calf’s stomach in its first year when BSE infection may get into its system.⁹

Despite research from a couple of U. S. Universities that indicates the presence of SRM's in meat¹⁰ where removal had supposedly taken place, and despite reports from Europe of the difficulty in removing all nervous system tissue, CFIA appears to be doing no testing to ensure that the SRM's being removed under their limited requirements, are being effectively removed.¹¹

Other risks continue in the use of meat based feed that can directly and indirectly result in cows eating cows.

Whatever the unknown degree of risk this poses to humans, it will remain a higher risk than it should be, unless the industry and regulators fully follow the recommendations of the "expert panel" used by both countries.

Risk to Canadian Industry (and probably the taxpayer)

With the resumption of some shipments to the U.S., many producers are expressing confidence in the future, and that "things will be back to normal."

What can be expected from "normal"?

It is useful to take a short look at the trends in Canadian beef production and the precarious market for those products.

Alberta rancher/producer Cam Ostercamp, has extensively documented Canadian production, feed lots, processing and marketing in a paper, **Beyond The Veil of Science, How mishandling of the BSE crises could lead to the downfall of the Canadian beef industry.**¹² Ostercamp writes :

- *That prior to BSE in May 03 Canada produced 2% of the worlds beef but was 4th largest exporter.*
- *That Canada consumes 28% of own production, exporting 72%.*
- *That over 70% of exports have gone to U.S. (sometimes up to 90%), about 6% of their use.*
- *Canadian production is up 60% in last 10 years.*
- *That 10 years ago Canada accepted net profit from cow of \$175-\$200, but two years prior to BSE net return per cow in Western Canada was at \$50- \$125*
- *Basically the U.S. eats its own production and imports as much as it requires to fill exports.*
- *Canada is producing more animals with lower margins and escalating operating costs.*

Ostercamp's paper details the factors which will continue to affect producer margins, largely U.S. ownership of processors and processor ownership of feedlots (not allowed in a number of U.S. states) new competition from a U.S. ramp up of their own production, plus potential competition from South America.

Some Canadian processors now gone or swallowed by U.S. processing giants have blamed beef producers for not supporting the home-grown industry. Such support usually required forward contracts; however the growth of a variety of auction markets has increasingly led to producers taking their chances at auction. The appeal of getting a “few cents more” at auction has resulted in increased percentages of cattle going to the U.S for processing. In a situation similar to that of raw log exports, jobs are exported with the raw materials. The loss of processing capacity in Canada will continue to be a drawback in expanding into markets other than the U.S.

Given the fragility of a market that is so dependent on the U.S., some might expect that Canada would be looking to other market opportunities and accommodating the demands of those other markets, particularly increased BSE testing. Canada however, tells other countries that “sound science” doesn’t require more testing. Even if this dubious assurance was true, the market will determine what level of testing is “necessary.”

A further risk for the industry would arise if research ever finds any indication of prions in cattle muscle meat.¹³ Any such discovery would not necessarily increase risk of vCJD however public perception could irreparably damage the industry.

The North American beef industry, if it continues with partial feed bans, will continue to put at risk the “happy accident” that BSE appears not to act like other TSE’s in potentially important ways. Scrapie and CWD for example are believed to be transferable through blood (and birth) and through saliva, and infectious agents can remain in the soil. Various lab experiments have demonstrated that the supposed “species barrier” is a sieve regarding transferability of various TSE’s.¹⁴ Other TSE’s have been found in blood and muscle. Until a complete feed ban is in place the risk of BSE mutating and acquiring any of these characteristics is possible.

CFIA & USDA

Most Canadians & Americans seem to believe that these agencies are primarily involved in inspections and regulations to protect public health. A review of the CFIA’s Corporate Business Plan would seem to endorse that notion.

Veteran journalist, Andrew Nikiforuk, Jan 2005,¹⁵ complained *that both agencies have incompatible mandates: promoting trade and food safety and that trade clearly dominates. That England had the same conflicted system until its BSE crisis revealed a fatal weakness: When trade triumphs over public health, industry eventually loses billions of dollars. Europe & Japan also discovered the same drawbacks, thanks to BSE. So CFIA may be called a trade-based, industry based, efficiency based, or even a*

public relations based agency but no citizen who has reviewed its BSE performance would call it science based.

In Jan 2004 we, as a farm, urged the Provincial Government to lobby for Federal/CFIA testing for BSE at an immediate high level, with testing to be ramped down if little was found.¹⁶ A subsequent article in the Vancouver Sun revealed (from access to information requests) that many in the CFIA recommended the same quick action.¹⁷ We now know, that course of action was not followed for whatever political reasons. We also now know that if it had, confidence in the markets, and new markets, would likely have resulted long before now. The official position seems to be the result of awareness of Canada's absolute dependency on the U.S. market and an unwillingness to do anything that might upset that market.

The USDA has different motivations.

As Ostercamp noted, the U.S. essentially consumes its own production and BSE has had minimal effect on most U.S. producers. Despite BSE, the U.S. National Cattlemen's Beef Association projected that 2004 would be their best sales year ever.¹⁸

U.S. producers and processors have always fought, mostly successfully, against any regulation of the industry, and as a result, the U.S. still has no cattle tracking program, no mandatory product recall system, no effective disease testing and a partial feed ban that is full of holes. USDA has failed to meet most of the recommendations of the WHO (World Health Organization) and the "expert panel" who reviewed USDA procedures.

Large numbers of people that head up the USDA have been recruited from the beef industry.¹⁹

USDA's actions on testing and feed issues, has come under repeated criticism from the Inspector General's Office, an independent watchdog in the Agriculture Dept. July 2004 testimony by I.G. Phyllis Fong criticized the department for loopholes in testing procedures. Though the plan focuses on high risk cattle, mostly sick or dying animals, Fong noted participation is voluntary so some high risk cattle pass through. She criticized testing plans that included 20,000 healthy but older cattle saying, "*it may give the incorrect impression that these few tests will suggest a level of assurance higher than warranted about the 45 million adult cattle in the U.S.*"²⁰

In 2005, Inspector General Fong ordered a new type of test on three suspect animals after USDA had refused to use the more sensitive tests for six months. One of these subsequently tested positive,²¹ to the dismay of the USDA head Johanns, whose principal concern seemed to be that Fong should not have the authority to order such tests.

Both agencies, having the benefit of seeing the beginnings of the European & Japanese experience, failed to assess the dangers to the industry (let alone consumers) as a result of taking an official position that it couldn't happen here. Such a position ignored advice from W.H.O. and ignored scientific evidence from researchers in the U.S. (Richard Marsh in particular) that a TSE was already in cattle in North America.²²

That BSE in North America would have significantly greater impact on the Canadian industry, (and the taxpayers,) seems to have escaped Canadian authorities, who continue to bury their heads in the sand.

CFIA Director Claude Lavigne in 2001 declared *“the risk of transmission where the disease doesn't exist is zero, and that's our situation.”*²³

Risk communication expert Proff. William Leiss of Queens University has said of the CFIA & official policy that:

Unacceptable failures in risk assessment, sloppy surveillance programs for animal disease control, and a stubborn refusal to impose a total ban on recycling ruminant protein in animal feed. It all boils down to idiot economics, where billions of dollars in losses later, Canadians are still told we can't afford to spend on necessary and cost-effective tests to restore confidence in our animal health programs.

Leiss maintains that human health risk is likely negligible, but that the risks to the industry, associated industries (and the taxpayer) were obvious and predictable and all but ignored by the CFIA. Leiss has a number of writings on BSE and Canada's hypocritical complaints about other countries reactions to Canada's BSE, at his website.²⁴

Although, as indicated earlier, many in the CFIA proposed a much higher level of testing when Canada's first home grown case showed up, the official position since has endorsed the limited testing. Chief spokesman for the CFIA on BSE, chief veterinarian Brian Evans regularly issues forth to declare that “our beef is safe,” “our program is based on sound science,” “the system worked as it was designed to do,” “food is kept safe and all potentially infectious material removed by removal of SRM's.” These mantras which are largely the product of PR campaigns are echoed by much of the industry. (see sound science & other mantras)

Evans has further mis-led the public. In a Jan 13 2005 interview on CBC Newsworld he said, *“outside experts who looked at Canada's actions, have approved all actions.”* Reading beyond the executive summary of the experts report, of Jun 26 2003, available on the CFIA website, will show how misleading this is.

Evans told the Guelph Mercury Jan 8 2004 *“that the “outside experts” advised against a feed ban.”* Check the above “experts” report for the truth on that one.

Evans, keynote speaker at the B.C. Cattlemen's Association spring/summer 2004 annual meeting was introduced as, "*a good friend of the industry.*"

Until fairly recently all but a handful of producers have appeared to agree with CFIA and the Government's approach. Typical is the CCA (Canadian Cattlemen's Association) position paper of March 2004, which states: "*overreacting by introducing testing that goes way beyond what is necessary based on science would encourage other countries to behave in an irrational manner.*"

CFIA has been vigilant in some matters. In 2004 CFIA attempted to seize a flying squirrel brought into Canada from the U.S. The animal was purchased from a breeder approved by the USDA and declared at the border, but CFIA subsequently issued the owner a removal order, as they had issued a rodent ban thanks to an outbreak of monkeypox in the U.S. The US Center for Disease Control has stated there is no connection between monkey pox and flying squirrels, but an unsatisfied CFIA initiated a court case against the owner to order surrender of the animal. Sept 21 04 a Federal Court Justice ruled in favour of the squirrel. CFIA announced it would appeal. The Government was accused of wasting \$200,000.⁰⁰ on the case.²⁵ All this at a time when the CFIA was complaining about the cost of any expanded BSE testing.

Despite the degree of support given CFIA & USDA and their minimal testing, by much of the industry, cracks have developed with the announced launching of legal action in the U.S. against the USDA by a processor, Creekstone Farms. Creekstone who relied on the export trade, have been requesting they be permitted to test all their beef, as requested by former customers. USDA has refused permission.²⁶

After the much delayed positive BSE test that occurred, thanks to the intervention of Inspector General Fong, organizations representing the majority of U.S. producers blasted the USDA for their testing regime. National Cattlemen's Beef Association complained about the USDA's "scattershot" testing and that, *we simply cannot tolerate actions that serve political pressures or pseudo-science over a sound surveillance program.*^{27 28}

In Canada producers have launched suits against the Government in four Provinces seeking at least \$7 billion plus punitive damages. The lead lawyer in the suit was quoted in the Vancouver Sun, referring to Canada's approvals that allowed feeding cows to cows two years after Britain had banned the practice; *they were grossly negligent in not taking into account the common knowledge and scientific knowledge of how mad cow was transmitted. The entire world knew about it.*²⁹

Industry posture & actions

In 1996 Howard Lyman, a 4th generation U.S. rancher who had operated extensive ranching and feedlot operations, appeared on the Oprah Winfrey Show, and declared that in the U.S. cows were being fed to cows and that it could lead to the same problems devastating the European industry and the same risk to humans that had just been officially acknowledged in England. U.S. industry withdrew major funding from the network and launched a suit (see disparagement laws³⁰) against Winfrey & Lyman seeking damages and fines.³¹ Six years later after various court actions and a second suit by the industry, the U.S. District Court finally ended the actions and in a decision the judge said: “everything that Howard Lyman said was true.”³²

Although Lyman was vindicated, the industry actions were effective, in that Winfrey would later say that she would never again talk about the industry. Other potential commentators (or their editors) have doubtless been similarly chilled by the action.

A sad example of industry and regulators denigrating or ignoring research that might affect the industry, is the case of Richard Marsh, a researcher on TSE's with University of Wisconsin-Madison since the early 60's who was primarily involved in researching a form of TSE in mink. Periodic outbreaks at mink ranches in the U.S. & Canada resulted in the deaths of all animals. By 1964 Marsh & other researchers surmised that a TSE might exist in North American cattle that could infect mink with a TSE.

In 1985 Marsh reported to the U. S. Livestock Association that there was strong epidemiological evidence that TSE's in mink had resulted from their being fed diseased dairy cows and that they should be on the lookout for signs of disease in the dairy cows. By 1993 Professor Marsh warned that, *if BSE does occur in the U.S. it won't have its economic impact from the number of cows it infects, it has an economic effect by the public perception it causes, by the lack of exports-the fact that once you are a BSE country, it severely limits your use of cattle products.*³³ Marsh went on to mention that 650 products from cattle are used in humans, that 380 of these contain proteins, e.g. insulin, and that BSE might make these products unusable.

Following publication of these remarks Marsh endured harassment and threats of lawsuits from the industry and was warned to stop making trouble by officials of his own university.³⁴

Victimized former rancher, Howard Lyman would later say that as an attendee at a symposium at Wisconsin-Madison in 1993 he was appalled at the treatment of Marsh and believed that the symposium was orchestrated to bring Marsh to heel. “*The University & industry just destroyed him.*”³⁵

Many might consider Marsh's warnings prescient, but not CFIA or USDA who ignored his research and his predictions on the effects on the industry.

Producer posture & actions

In Country Life in B.C. March 2004, a columnist reported a ranchers comments on the BSE situation, & added *“feeling as we all do” says that it has been blown out of proportion by the media and the politicians. He says the percentage of people sick or dead from eating beef worldwide, compared to the number who eat it, is almost nil.*

While one is tempted to ask what percentages would warrant disruption of his enterprise, it is true that the body count is low compared to some other food-borne diseases. It is also understandable that producers, seeing their livelihood affected and threatened for reasons they don't understand, would be angered at any media discussion. It should however have come as no surprise to North American producers given the European & Japanese experience. When other countries closed their markets to North American beef they did exactly what Canada has done to other countries.

Public reactions to BSE may be regarded by some as hysterical and unfounded, however we do know that in all BSE countries, official and industry assurances lost credibility as testing was increased and additional cases found. With BSE & vCJD, the present body count is only part of the issue. A brain wasting, debilitating illness that gradually destroys mental and physical faculties seems more frightening to many than a quick acting, largely intestinal, food-borne disease. Given the demonstrated ability of vCJD to be spread through blood or organ donations, present deaths are only one consideration.

Canadian producers have been poorly served by the CFIA and Government who proclaimed that “it couldn't happen here,” who failed to take precautions based on the experience of other countries, who failed to initiate feed bans, and failed to do the necessary risk analysis that would have predicted the devastation of the industry and the cost to the country, estimated by some at more than \$ 7 billion so far. Who failed to use elements of the precautionary principle, because if you have taken the position that “it won't happen here” what precautions need you take? CFIA later defended their limited “risk analysis” saying it was not their responsibility to predict the economic consequences. This “cop-out” is without substance and contrary to the Government's own guidelines for assessing risk and use of the precautionary principle.³⁶

That the U.S. closed the border in 2003, supposedly for safety reasons, to Canadian beef (and most other livestock, sheep, goats etc, live or processed) was a rank piece of hypocrisy as the industry is so intertwined, and has allowed the same rendered feed etc. A U.S. beef industry spokesman has commented that, criticizing Canada's industry is like calling your identical twin sister ugly. Despite that hypocrisy the fact remains (as mentioned earlier) the U.S. doesn't need our beef except to cover exports.

Producers in Canada have also been poorly served by some of their own organizations who have mostly supported the CFIA's limited actions, provided questionable assurances about safety measures, denigrated the actions of other countries and called other countries irrational.³⁷

Until recently producers complained that the large Japanese market had unreasonably closed to North American beef. These complaints did not acknowledge that Canada had closed its border to Japanese beef, and kept it closed even after Japan was doing 100% testing. Imports from Japan were small, mostly specialty Kobe beef, but they had significance to Japanese authorities when they closed North American imports.

Not all producers have been mesmerized by the chanting of the mantras.

At the 15th World Meat Congress in Winnipeg June 2004, the President of the Manitoba Cattle Producers remarked, *as producers continue to hear experts talk about science-based decision making, there is no real progress made towards the resumption of trade. As much as everybody talks about science based, they aren't adhering to it.* Green went on to remark that Manitoba producers wanted removal of SRM's from all livestock feed and increased testing as asked for by Japan.³⁸ Others like the previously mentioned Ostercamp and the ranchers now in legal action against Government will hopefully be joined by a majority of producers to effect change.

Shoot, Shovel, & Shutup

Alberta Premier Ralph Kline's advice after a rancher initiated testing on a cow that was subsequently confirmed with BSE was *"that he should have done the decent thing, shoot, shovel, & shut-up."*³⁹

Although Kline later retracted the statement, some have no doubt followed his advice, in part because of the long delay, (more than a year) by CFIA in arranging reasonable compensation for responsible ranchers bringing out possible cases for testing. "Shoot, Shovel, Shut-up" obviously carries the benefit that a diseased animal does not enter the food chain, however it does nothing to establish vectors of infection that might have affected other animals, (showing no clinical signs) destined for the food chain or perhaps already in the chain. It also provides a false sense of security regarding the real incidence of BSE in a population. Despite Kline's advice, responsible ranchers have brought forward several of the animals testing positive for BSE.

Feed

North America, contrary to the recommendations of the W.H.O. and the “expert panels,” continues to feed ground up cattle to a variety of animals including pigs & chickens. The remains of the pigs and chickens plus chicken litter containing spilled feed and chicken waste can be fed back to cattle. The feed containing ground up cows is required to be labeled with a warning, “not to be used as cattle food.”

As the CFIA & USDA know from their own investigations of BSE incidents, these foods have been accidentally, and sometimes deliberately, fed by producers to cattle.⁴⁰ In the production of these foods, cross contamination or mislabeling is an ongoing possibility.

When Britain first banned meat and bone meal from cattle feed, unhappy producers continued to acquire the product, still being used as garden fertilizer, so they could continue to feed the product to their cows.⁴¹

Some B.C. producers who say they have never used, or seen such foods used, and have less costly cattle food options, may be blind to the motivations and economic considerations of some of their fellow producers. Dairy producers, whose byproducts, (unwanted calves and cull cows) form a significant part of beef production, require high protein foods for calves.⁴²

The dairy industry in particular needs milk replacer and high protein intakes for calves at an age where research indicates they are most susceptible to infection.

Some critics have also suggested that bovine growth hormone use, (apart from other health concerns associated with their use) creates higher protein needs in feeding, which for some producers will mean, animal by-products.

At the height of public concern over BSE in Britain, when Government had acknowledged the role of contaminated food in BSE, a Fraser Valley dairy farmer commented to us that he was unconcerned, as he had been feeding supplemental high-protein animal food that contained animal material including rendered cows, for several years and his cows were thriving on it.

The “expert panels” reported that, *Considering the BSE situation in North America, the subcommittee believes the partial ruminant to ruminant feed ban that is currently in place is insufficient to prevent exposure of cattle to the BSE agent. The current ban reflects the situation in Europe early in the outbreak where, with the benefit of hindsight, it can be concluded that propagation of BSE infectivity continued, albeit to a lesser extent than would have occurred in the absence of any controls. Epidemiological*

investigations in the UK in particular highlighted the dangers to cattle of infection through the consumption of feed that had been contaminated accidentally when manufactured in premises that legitimately used mammalian meat and bone meal in feed for monogastric species (pigs and poultry).⁴³

“Sound Science” & other misleading mantras

sound science

I first heard the term from a rancher who had previously complained that BSE was a problem, only due to being blown up by the media.⁴⁴ When he later suggested that the response to BSE needed to be based on “sound science” I was momentarily heartened that he might now be seeing the consequences of inadequate actions and testing, on the Industry and the public.

I soon learned that the “sound science” mantra invoked by the industry and regulators is Orwellian double-speak of a clever kind.⁴⁵ Its regular use is intended to convey the impression that the industry and regulators have “good science” to support their positions, while implying that critics are emotional, irrational, uninformed or stupid.⁴⁶

In practice, industry and regulators use it to endorse their own positions while describing science that they perceive as damaging or critical of their positions as “junk science”⁴⁷

Various industries including the beef-industry have used the phrase when suggesting that there is inadequate “science” to justify actions that would impact on the industry. An absurd example of this was the use/misuse by the U.S. industry, of former U.S. Surgeon General Dr Everett Koop. An industry PR firm in 1996 released a statement from the venerable Koop that: *There is absolutely no clinical evidence that beef can transmit vCJD.....Unlike the British herd, the U.S. herd does not carry BSE*⁴⁸. There was much evidence to suggest otherwise on his second point. His first point is designed to mislead the public as “clinical evidence” would require that humans be deliberately dosed with infectious materials under lab conditions and presumably monitored through sickness & death.

Perhaps.... (the writer facetiously suggests) where industry claims there is no conclusive evidence of harm from a product (but much epidemiological evidence) a clinical trial should require industry executives and board members be recruited for clinical trials of their product.

The origin of the term goes back to Public Relations campaigns by the tobacco industry in 1993 that brought anti-regulation interests together under a “sound science” coalition.

Various other industry groups have since used the phrase in order to ease or prevent regulation, particularly where any aspect of the “precautionary principal” is being proposed.

“Sound science” is a buzzword for science with a pro-industry bias, say Mad Cow authors Rampton & Stauber in a revealing book, Trust Us We’re Experts.⁴⁹

The vilification of threatening research as “junk science” and the corresponding sanctification of industry-commissioned research as “sound science” has become nothing less than standard operating procedure in some parts of corporate America, wrote Clinton era Energy Department epidemiologist David Michaels.⁵⁰

The phrase, co-opted by industry, is today unfortunately used by some who want to see broad, unfettered scientific opinion brought to a particular issue, not realizing its misleading use by regulators and industry.

firewall protects

This phrase is trotted out by industry and regulators whenever increased testing is suggested along with its frequent companion mantra, “**testing is not a health issue.**” The rationale presented is that removal of SRM’s removes all risk, therefore the number of animals tested has no relevance to human health concerns. These broad assurances fail to acknowledge the previously mentioned difficulty in fully removing all SRM’s, the limited categories of animals where SRM’s are removed, and the lack of testing for the effectiveness of SRM removal. Given these limitations, testing (or the lack of it) is certainly a health issue and the “firewall” a sieve.

system worked as it was designed to do

This phrase is trotted out with each new positive case, and implies that there is a good system and it’s working well: reassurance there for anyone assuming that the regulators have the public interest as their prime concern.

Given that North America has failed to adopt many of the recommendations of the “expert panels,” the limited testing compared to other countries, the gaps and holes in testing and feed regulations, the “system” could be seen as a design for a program to avoid finding the extent of BSE in North America. The shortcomings in Canada have been partially pointed out by just a few Government scientists, since fired. (see whistleblowers).

When elk and deer farming, industries promoted by Government, imploded a few years ago; thousands of animals were slaughtered due to the TSE, CWD. (chronic wasting disease)

Reporter/author Andrew Nikiforuk⁵¹ remarked, *CFIA remains a cheerful promoter of this fraudulent enterprise. It has even allowed the Canadian Cervid Council, an industry promoter, to triumphantly announce more cases of CWD with the familiar refrain, "the system is working."*

The shortcomings of the U.S. system have been pointed out by a much larger group: former meat industry inspectors, employees and veterinarians including former USDA veterinarian Dr Lester Friedlander.⁵²

Complaints have included concerns over the voluntary nature of samples selected, distrust of the single U.S. laboratory handling samples, inspectors lack of powers and distrust of the USDA itself. When United Press International used freedom of information provisions to obtain test results from 2001 to 2003, they found tests were done at fewer than 100 of the U.S's 700 slaughter houses, and as testing is voluntary, some of the nation's largest processors did none at all.⁵³

An inspector with 28 years experience said, *the plants chose which animals are to be tested, we trust the industry to pick out the most suspect cows from their own herds, we test those and tell the public there is no mad cow.*⁵⁴

Dr Michael Hansen who studies food safety for Consumers Union, publisher of the respected Consumer Reports Magazine, said of the USDA testing, *I'd say they were designing it to minimize the chance of finding any.*⁵⁵

Increased tests would imply beef unsafe

Often found in the company of "**testing is not a health issue,**"

Industry and regulators regularly invoke both. U.S. Cattlemen's spokesman Gary Weber, Ph.D. made the absurd comparison: *that it would be like demanding all cars be crash tested to prove they were safe.*⁵⁶

USDA marketing secretary Bill Hawks declared: *tests aren't necessary and would imply a consumer safety aspect that is not scientifically warranted.*⁵⁷

These deceptive arguments go back to earlier days in the auto industry, when facing pressure to introduce seat-belts in cars, the industry claimed that, *putting seat belts in cars will imply that they are unsafe.*

Testing is not a health issue

Implies that the level of testing of cattle has no relevance to human health.

It would be a reasonable comment if all cattle were tested, if all SRM's were removed from the cattle and after market testing showed no contamination after SRM removal.

Regulators and industry maintain the fiction, enabled in part by the reality of long disease incubation periods in humans. When a vCJD case is diagnosed and believed to have been caused by contaminated food, no definitive proofs are available as to the moment or source of the infection. These uncertainties allow regulators and industry to misrepresent the degree of risk without fear of being held personally accountable.

To illustrate the hypocrisy of the position, imagine if vCJD was as rapid acting as some of the other intestinal diseases. Where the source of infection could be quickly traced and identified as to a particular processing plant and animal. Where inadequate SRM removal, or no testing, could be identified as a contributory cause.

In this scenario, one can be sure that testing would be regarded as a health issue and regulators and politicians would be scrambling to address the problem.

The difference? Regulators and politicians could and would be held responsible and accountable for their actions or the lack of them, as they are unlikely to be, given the existing long incubation.

After chanting these mantras until they have become an article of faith, regulators have boxed themselves in when it comes to considering increased testing. The CFIA & USDA, who declared it couldn't happen here, would have to abandon the PR slogans.

expert panels

After Canada's first homegrown BSE case in June 2003, the CFIA assembled a "team of experts" to review Canada's response and to provide recommendations for ongoing actions. The team consisted of two Swiss scientists with BSE experience in their own country and in Europe. Chair Ulrich Kihm, then a consultant, was formerly chief veterinarian in Switzerland.

William Hueston from the U.S. was a former USDA veterinarian who most notably had declared in 1998: *there is a snowballs chance in hell that mad cow disease will strike the U.S.herd.*⁵⁸

Hueston appeared as a well paid witness for the cattle industry plaintiffs in the suit against Oprah Winfrey & Lyman, he emerged somewhat discredited, and the case was eventually dismissed at the end of a six year legal pursuit by the industry.

Additional input was sought from Dr S MacDairmid of New Zealand. MacDairmid is a respected figure in New Zealand on various animal diseases, but is possibly best known

for his strongly voiced opinions that BSE is an overrated disease, perhaps understandable from the point of view of someone who has not yet had experience of a case in New Zealand or nearby Australia. That MacDairmid has little to offer to help reestablish public confidence or markets, is clear. Variations on his opinions can be heard from CFIA's chief veterinarian Brian Evans.

It is interesting to consider how these "expert panels" work.

Essentially the agency whose actions are to be reviewed, selects the "experts," writes the terms of reference and selects and controls the information given to the "experts." Cautious consultants, ever mindful of "not biting the hand that feeds them" can be expected to write cautious, uncritical reports and offer gentle recommendations.

So it was with the June 2003 "expert report." One has to go beyond the executive summary, which mostly praises Canada's actions, to see what the "experts" had to recommend. Most of the recommendations, including increased testing, feed restrictions, testing for effectiveness of SRM removal, have not been followed except for a partial increase in BSE testing.

The same panel was enlisted by the USDA in Feb 2004 to review U.S. actions. Having seen that Canada had mostly failed to follow, or misrepresented, their gentle recommendations, stronger recommendations were made to the U.S. It would have little effect, as both countries changed almost nothing.

It appears that the main function of such panels is to provide the agencies under fire with a convenient exercise which can enable them to claim that their actions have been blessed by outside experts. The few who go beyond the press releases and the executive summaries, will know otherwise.

A more recent "expert panel" that looked at CFIA actions regarding avian flu in B.C.'s Fraser Valley, again issued a report largely praising CFIA actions. However in a significant and revealing comment, this report recognized that, *a separate agency, not CFIA, should question non-federal personnel involved in the outbreak (e.g. industry, farmers, provincial staff) to obtain an **independent** (our emphasis) report of the Avian Influenza outbreak*⁵⁹.

Had such a recommendation been in force before their report, the "avian experts" would almost certainly not have reported that, *protocols were effectively executed and composting/disposal was at an internationally high standard.*

When the aforementioned industry, farmers, provincial staff etc had their chance to speak later at a Federal Commons Committee hearing, they significantly challenged CFIA handling and the CFIA's spin on events and were particularly critical of the

disposal methods, which they claimed helped spread the disease.⁶⁰ (for other theories on avian flu's spread, see endnotes)⁶¹

Disposal and biosecurity measures also came under fire from B.C.'s Provincial Health Officer, Dr Perry Kendall.⁶²

Other "outside experts" who offered unsolicited opinion to the CFIA or Government; reaped abuse from CFIA and assorted politicians.

A British scientist, John McCauley, a research scientist with Britain's Institute for Animal Health, who has studied avian flu for 25 years and is a leading authority in Britain, gave warnings about CFIA disposal methods in the Fraser Valley. The CFIA's spokesman, Kiley dismissed his concerns saying, *we have our own expertise, our own specialists, and they are all Canadian*. B.C.'s Agriculture minister of the time, Van Dongen, endorsed that opinion.⁶³

CFIA contempt for outside opinion

Is worth some discussion.

Clearly the reliance on "Canadian Experts" at least any few that might have been listened to by the CFIA, has failed to adequately address problems as they have occurred.⁶⁴

The 'benefit' of learning from the unfortunate earlier experience of other countries seems to have been ignored. In a country of immigrants like Canada one might expect awareness that outside experts have much to offer.⁶⁵ Instead, we have developed something of a habit of reinventing the wheel. Politicians and bureaucrats so often assure us that we are leading the way on various initiatives that many come to believe it to be true. The danger of believing self created myths is evident in CFIA's actions and reactions.

A crash course in "risk analysis" and "behavioural economics" for the CFIA and some politicians might give them some respect for the value of the "outside" view.

Whistleblowers

In July 2004, three scientists who had worked for Health Canada were fired.

The three veterinary scientists, Shiv Chopra, Margaret Haydon, & Gerald Lambert had written a public letter to Canada's then health Minister urging a complete ban on animal feeds containing rendered animals, after Canada's first homegrown BSE case. Chopra and Haydon had previously been reprimanded for earlier public comments about bovine growth hormones.

Although senate hearings subsequently led to the growth drugs not being approved, and although a Federal Court overturned the reprimand, the three were terminated July 2004. At the time, the then Liberal Government was trumpeting a proposed new “whistleblowers” bill which it claimed would protect whistleblowers.

The joint firings could not have sent a clearer message to potential whistleblowers on what they could really expect..... than if the three had been publicly executed on the Parliament lawn.

Alan Cutler, a civil servant whose internally expressed concerns eventually led to the revelations of Gomery’s Sponsorship Enquiry, has commented that the proposed legislation would not have helped him one bit. Cutler, who had only voiced his concerns through internal channels, lost his position and his prospects and took early retirement.

The new Conservative Government is presently muzzling M.P.’s and limiting information to the media. “Access to Information” improvements, were promised as part of a new open, transparent and accountable Government. Changes in the “access to information” area have just been dropped from the proposed Federal Accountability Act. Current tactics suggest that despite earlier promises this Government is unlikely to improve any process that could allow criticism from within.

Other theories

The grab bag of theories advanced by British dairy farmer Mark Purdey has received some media attention and some sympathy from producers who would prefer not to believe that they might have fed contaminated product to their animals. Purdey blames a mix of environmental factors, metal imbalances and low frequency shock waves rather than contaminated feed for the BSE problem⁶⁶. Purdey appears to have no support for his theories from established BSE/CJD researchers.

Longtime British TSE researcher Stephen Dealler has hypothesized that present cases of vCJD might have resulted from infected baby food in the 70’s. That many potential cases from later infected meat (and a longer incubation period) have not yet shown symptoms, but could be infective as blood or organ donors⁶⁷. Other TSE researchers are mostly skeptical about the theory but know that there is much still to be learned about TSE’s, and some acknowledge that he could be correct.

Although there is consensus amongst leading TSE researchers in a number of areas, all acknowledge that much remains to be learned before some theories can be ruled out.

Wrap-up

A second Canadian BSE case in 2006 has just been announced and despite the usual Agency comments that further cases were “not unexpected,” both 2006 cases were in dairy cows born after the partial feed ban and therefore shouldn’t have been expected. CFIA’s chief veterinarian Brian Evans now tells us that the problem is that farmers are still using old feed purchased before the ban.⁶⁸ It will be interesting to see if any verification of this notion comes forward. What is more likely is that CFIA would prefer to believe such a notion, than concede that the partial feed ban is a sieve.

Canada’s industry remains in the precarious position of depending on the U.S. market while dependant industries, grain, suppliers etc, and the taxpayer wonder what effect further market upheavals will have.

Few Canadian producers appear to be pursuing actions that will effect change in Government policy. Aside from a number of initiatives to build up slaughter capacity to deal with “older” animals, I have seen no evidence the beef/dairy industry is looking at ways of decreasing TSE incidence, as are occurring in the sheep industry, or initiating innovative marketing, as is occurring in France.

Purebred sheep producers in most Canadian provinces have established a blood testing program to determine genotypes found to be more susceptible to the TSE scrapie. Breeding programs can then eliminate susceptibility in a few generations or less.⁶⁹ Stymied by the CFIA’s refusal to allow the BSE testing some customers demand, the beef industry remains dependant on conventional markets and marketing. France, having seen its domestic consumption plummet, has rebuilt public confidence with a substantial testing program, and marketing, (on a large industry scale,) which replicates the confidence that purchasers once had in buying from a local farm. State of the art processing facilities in France can provide product, in end-user packaging, which identifies the farm of origin.⁷⁰

For producers content to leave marketing in the hands of the CFIA, content to take a diminishing return at auction and content to see untold millions of the producer bail-out money going directly to processors while processors lowered prices to producers,⁷¹ a hard look at future prospects is suggested.

An April 2006 article in *Country Life* reported Manitoba farm income (with Alberta & Saskatchewan following closely) is projected to be worse than during the depression. According to the National Farmers Union study; of the 75 corporations that sell products to farmers, or buy products from farmers, 76% had record or near record profits in 2004. Of 15 food processors listed, eight had record profits (including Cargill

& Tyson, the two largest beef processors) two had second biggest profits and one the third largest. The report's author, Darren Qualman said, *Single companies make more than all the farmers in Canada combined.*⁷²

It is the writers opinion that as long as a majority of producers are not calling for substantial change in testing and feed practices and marketing and processing, future markets will at best remain dangerously dependant on the U.S., and future profitability is doubtful.

As a result of our research we no longer eat beef and because of contamination concerns we no longer eat any kind of meat product, e.g. some hamburger, hotdogs, sausages, pizza toppings etc, that might have been extracted by MSM (mechanically separated meat) or AMR (advanced meat recovery) processes.⁷³

A note of optimism to end. The aforementioned neuroscientist Dr Neil Cashman, now with Vancouver's G.F.Strong Hospital has announced development of a blood-test to identify TSE diseases. *The technology is said to be adaptable to detect several brain diseases and bovine prions, the infectious proteins that cause mad cow disease and the human form of it, vCJD.*⁷⁴ The test according to Cashman should be available in a year or two.

Such a test could have significant benefits over existing post mortem tests in bovine testing and could prevent further disease transmission in humans through blood or organ transplants. The test however could have a wild card element in that a test that could identify developing vCJD and distinguish between Alzheimer's and vCJD, might indicate levels of vCJD in the human population that would further implicate BSE's legacy.

Other sources

U.K. BSE Enquiry Report	http://www.bseinquiry.gov.uk/report/index.htm
World Health Organization	http://www.oie.int/eng/en_index.htm
Chronic Wasting Disease organization	http://www.cwd-info.org/index.php
Articles on Mad Cow	http://organicconsumers.org/madcow.htm
U.S.Center for Disease Control	http://www.cdc.gov/ncidod/EID/vol11no6/03-1082.htm
Canadian Health Coalition, BSE Archives	http://www.healthcoalition.ca/bse-archives.html
Canadian Food Inspection Agency, BSE info	http://www.inspection.gc.ca/english/anim/a/heasan/disemala/bseesb/bseesbindexe.shtml
Canadian Cattlemen's Association	http://www.cattle.ca/
BSE misc. info to 2002	http://bse.airtime.co.uk/welcome.htm
BSE misc. info after 2002	http://www.priondata.org/
Scrapie testing in Canada	www.genenovas.ca/public/
B.C. Meat Inspection Regulations	http://www.healthservices.gov.bc.ca/protect/index.html
C Ostercamp—Beef Initiative Group	http://www.beef-initiative-group/
B.C.Cattlemen's Association	http://www.cattlemen.bc.ca/default.htm
The Mad Cow Story	Nature of Things with David Suzuki

 ENDNOTES & REFERENCES

¹ Inspectors at processing plants do not do any BSE related tests on animals; they have neither the time or equipment or possibly the training. Inspectors in Canada can order an animal showing signs of advanced BSE (disorientation, staggering, collapse etc) out of the chain. These signs are just as obvious to the small processor who can be expected to decline to process such an animal or risk or ruin his reputation in the local market place.

² H Puttick, Glasgow Herald. Aug 6 2004

³ Med India-Worse yet to Come, mar 27 2006 & N Hawkes, U.K.Times mar 27 2006 on website www.healthcoalition.ca

⁴ J Hope, London Daily Mail May 21 2004

⁵ S Bosely, London Guardian Sep 22 2004

⁶ M Greger M.D. "U.S. Continues to Violate W.H.O. Guidelines" Jan 23 2004 on Organic Consumers website

⁷ S Mitchell, United Press International, July 28 2004

⁸ S Mitchell, UPI on Washington Times.com Mar 24 2005

⁹ Calves gut walls permit absorption of large molecules in early life. This factor coupled with epidemiological evidence has led many researchers to believe that BSE is contracted at a very early age.

¹⁰ M Gregor. M.D. "U.S. Continues to Violate WHO Guidelines" Organic Consumers Association website, Jan 23 2004

¹¹ My email enquiry to CFIA was acknowledged but not answered; phone enquiry to CFIA Burnaby said they had no such program. Enquiry to Proff Wm Leiss, risk assessment expert and commentator on BSE & CFIA, said hadn't heard of any such testing.

¹² www.leiss.ca

¹³ D Brown, Washington Post, Jan 4 2004 & testimony By British TSE expert, Proff. Lacey at a U.K Parliamentary Committee June 1990 where Lacey had to explain to dubious politicians that, "muscles have to be associated with nerves and you cannot take the nerves out of all the meat" from Mad Cow U.S.A.. (Note: removal of SRM's to remove "all nervous system tissue" is therefore misleading: at best SRM removal, only decreases risk.)

¹⁴ Mad Cow U.S.A, Could the Nightmare Happen Here? By Sheldon Rampton & John Stauber, page 208 available free at <http://organicconsumers.org/madcow.htm>

¹⁵ Globe & Mail, Jan 26 2005 . Note: CFIA answers to Federal Agriculture Minister whose mandate is to promote the industry.

¹⁶ Our letter to Provincial Govt protesting economic effects of proposed new meat processing regulations.

¹⁷ C Skelton, Vancouver Sun May 20 04 & May 21 04

¹⁸ J Bonne, MSNBC.com Dec 23 2004

¹⁹ D McNeil, New York Times, Feb 26 2004 & T Bialic, Seattle Post Intelligencer, Apr 30 2004

²⁰ J Bonne, MSNBC.com, Dec 23 2004.

²¹ A Barrionuevo & D McNeil. New York Times, June 15 2005

²² Mad Cow U.S.A. by Sheldon Rampton & John Stauber

²³ B Bergman, McLean's Magazine Feb 14 05

D Staples, Edmonton Journal Mar 6 05

²⁴ <http://www.leiss.ca/>

²⁵ A Dawson, Vancouver Sun, Oct 14 2004 & editorial, Vancouver Sun, Oct 9 2004

²⁶ S Blakeslee, New York Times, Feb 27 2004 & S Mitchell, UPI, Feb 27 2004

²⁷ P Hisey, Meatingplace.com June 20 2005

²⁸ D McNeill, New York Times, June 26 2005

²⁹ C Perkel, Vancouver Sun, April 12 2005

³⁰ Agricultural Disparagement laws grew out of earlier so called SLAPP suits (strategic lawsuits against public participation) SLAPP suits were used by industry to silence critics. In 1995, not content with the chilling effect of SLAPP suits, various industries pressed state legislators to pass agricultural disparagement laws in 13 U.S. states with more considering such acts. An Associate Law Professor at Emory University Law School said, *Agricultural disparagement statutes represent a legislative attempt to insulate an economic sector from criticism, and they may be strikingly successful in chilling the speech of anyone concerned about the food we eat. Scientists and consumer advocates must be able to express their legitimate concerns. The statutes quell just that type of speech. Any restriction on speech about the quality and safety of our food is dangerous, undemocratic, and unconstitutional.* (D Betterman in Mad Cow U.S.A., pg 142. For more detail on laws see Mad Cow U.S.A.

³¹ Mad Cow U.S.A., pg 18-21

³² R Capps, Washington Post Jan 2 2004

³³ Mad Cow U.S.A.. pg 210

³⁴ Mad Cow U.S.A., pg 210 & A Nikiforuk, Globe & Mail, Jan 8 2004

³⁵ Mad Cow U.S.A., pg 18

³⁶ Gov't of Canada Publications, A Framework for the Application of Precautionary Principle in Science-based Decision Making about Risk

³⁷ Canadian Cattlemen's Association website FAQ's, Jan 2004 & B.C. Cattlemen's website FAQ's April 2006

³⁸ L Rance, Country Life, July 2004

³⁹ CBC Radio, Sept 16 03

⁴⁰ R Foot, Vancouver Sun, Jan 17 2004

⁴¹ M Greger M.D. Organic Consumers website, Dec 31 2003 .

⁴² Dairy operation requires annual breeding of cows to maintain milk production. Although some female calves will be retained as replacements others and male calves are destined for beef production. Some breeding is done with "beef" sires to improve meat weight yield. Calves unwanted for replacement are destined for veal production or for feedlots. Unlike beef producers who generally only require milk-replacer for an occasional calf when maternal supply is inadequate or impossible, dairy operators generally raise all calves on milk-replacer and move to high protein feed as soon as possible as it is less expensive than milk replacer. Some milk-replacer products have included blood products from slaughterhouses, including cow blood. Milk-replacers have been implicated as a likely cause in several of Japan's BSE cases. It is not clear whether the blood itself was the infectious agent or whether the blood was contaminated by the slaughterhouse collection methods. The "high protein" feeds which follow replacer use, can include animal protein based foods.

⁴³ USDA website. “experts report” Feb 2004

⁴⁴ Despite the complaints by many producers about the media The Canadian Cattlemen’s Association in its Aug 2004, Strategic Plan for the Canadian Beef Cattle Industry said thanks to the media “for the largely favorable media reports on BSE which helped increase Canadian consumption.”

⁴⁵ C Mooney, Washington Post.com Feb 29 2004

⁴⁶ for full overview of BSE see article “risk part 3” www.leiss.ca

⁴⁷ Scientific American website, June 15 05

⁴⁸ Mad Cow U.S.A., pg 194

⁴⁹ Trust Us We’re Experts, How Industry Manipulates Science & Gambles With Your Future, by, Sheldon Rampton & John Stauber. See website <http://www.prwatch.org/books/experts.html>

⁵⁰ Scientific American website, June 15 2005

⁵¹ A Nikiforuk, Globe & Mail, May 29 2003

⁵² S Mitchell, United Press International website, Feb 9 2004

⁵³ *ibid.*

⁵⁴ *ibid.*

⁵⁵ *ibid.*

⁵⁶ D Mc Neil, New York Times, Apr 10 2004

⁵⁷ web blog

⁵⁸ C Chandler, Amarillo Globe News website, Jan 28 1998

⁵⁹ CFIA website, Annex 1 Evaluation Report, Response to H7N3 Highly Pathogenic Avian Influenza, etc

⁶⁰ D Schmidt, Country Life, Feb 2005

⁶¹ Agencies and the media continue to report that avian flu’s are spread from wild birds to outside flocks and then to commercial flocks. A differing opinion can be found at www.grain.org that suggests wild bird migratory pathways do not explain outbreaks when there is greater evidence for transference between commercial flocks and their various supply and distribution infrastructures. Some of the testimony at the Commons Committee would support that view

⁶² A O'Brien, Vancouver Sun, Aug 27 2004

⁶³ L Pynn, Vancouver Sun, April 24 2004

⁶⁴ A number of Canadian “experts” on TSE’s and risk analysis have stated that CFIA has never asked them for assistance. My review came across nothing in news & other sources to indicate that CFIA has used any outside experts other than those hired to do the “expert report” already commented on in this article.

⁶⁵ With any advice adapted to any peculiarly Canadian circumstances if warranted.

⁶⁶ R Mercer, Country Life, July 2004

⁶⁷ J Meikle, The Guardian (UK) Mar 4 2005

⁶⁸ www.cbc.ca, New Mad Cow confirmed, Jan 23 2006.

⁶⁹ While eliminating TSE susceptible genotypes has obvious benefits, the resulting reduction in diversity could remove animals that might have had “beneficial” genotypes insofar as other diseases and conditions are concerned. Our “tinkering” with the species can have surprising results.

⁷⁰ While Government policies here are rewarding large processors by discouraging small processors, various agricultural sectors have discovered the potential of “local-markets” and marketing. Opportunity is there for large producers to take advantage of the demise of small community processors and market as France has done. As Canada’s beef industry only recently came to the notion of keeping lifetime track of animals, some producers might be reluctant to be identified to an end-user. As much of the industry depends on feed-lotting (and resultant change of ownership) these strategies may not be as broadly useful as in France.

⁷¹ C Ostercamp, Beyond the Veil Of Science, www.leiss.ca

⁷² A Dawson, Country Life in B.C. April 2006

⁷³ Concerns re slaughter processes, utilization of organ and other meats, and MSM and AMR processes. For a full description on these processes, see M Gregor M.D. “U.S Continues to Violate WHO Guidelines, Jan 23 2004 at Organic Consumers website.

⁷⁴ P Fayerman, Vancouver Sun, Mar 6 2006