

No to Bovine Growth Hormone: A Story of Resistance from Canada

-- Lucy Sharratt

In early 1994 recombinant bovine growth hormone (rBGH) was poised to become the first genetically engineered agricultural product on the market in Canada. But by the end of the year grassroots opposition and a parliamentary inquiry forced a moratorium on use or sale of the drug. Five years later, the Canadian regulatory authority, Health Canada, denied Monsanto's application for approval of rBGH.

Monsanto was surprised and shocked by the announcement that its product was refused.¹ The company immediately vowed to appeal the decision but as far as the National Farmers Union is concerned; "Monsanto may protest, but the facts are clear and the issue is settled."²

The Canadian government's decision to reject rBGH is the outcome of more than a decade of persistent grassroots resistance strengthened by diligent inquiry by some scientists within Health Canada, key news media exposure, and a national political debate that included hearings before two parliamentary committees. Protest by individuals and groups in communities across Canada built into a national movement for a ban of rBGH.

Farmers and consumers revolt

As early as 1986 officials in Health Canada had concluded that there was "no demonstrable human health risk" from consuming milk from cows injected with rBGH. That decision -- unaccompanied by a scientific rationale -- persisted through to the early 1990s.³ In 1988 recombinant bovine growth hormone was tested on dairy herds in four provinces and the

milk was quietly added to the general commercial supply. Dairy processors were first to expose the sale and unwitting public consumption of test milk, a story that was picked up by the media in November 1988. This was the Canadian public's introduction to rBGH and negative reaction was immediate and widespread. When consumers in British Columbia found out about the research trials, one processing company received more than 600 phone calls in one morning, jamming 17 trunk lines.⁴ This was the beginning of a massive, spontaneous public opposition that swelled and was sustained through ten years, forcing the continued delay of approval and, finally, Health Canada's rejection of rBGH.

In the province of Ontario processors in county milk committees wrote letters to the Ontario Milk Marketing Board (OMMB) persuading the board to ask researchers to stop putting milk from their experiments onto the market. When Ontario dairy farmer Lorraine Lapointe learned that rBGH test milk was being sold she fought for an inquiry into what she saw as negligence on the part of the OMMB for failing to inform farmers, processors and consumers. Lapointe lost her first bid for an inquiry but, after months of effort that took her away from farm and family, she successfully appealed and represented herself in a two-day hearing of the Farm Products Marketing Commission.⁵ The National Farmers Union supported Lapointe but some of her neighboring farmers were fearful of the controversy. Lapointe later told a Senate hearing: "When I started digging, I did receive a lot of threats but it did not matter because this is very important, not just to our health but to the health of the dairy industry."⁶ The OMMB only published the inquiry's final recommendations in their newsletter after pressure from Lapointe. Dairy farmers in her region later elected Lapointe to the Ontario Milk Marketing Board making her the board's first female member. Her efforts were typical of the hard work undertaken by individuals in communities across the country, engaging fellow citizens and demanding accountability from authorities.

Lorraine Lapointe, like many Canadians, was compelled by the contradictory image of milk that was promoted as “nature’s most perfect food” being produced by injecting dairy cows with a genetically engineered hormone thought to be both harmful to the animals and potentially hazardous to human health. “Milk. Pure and Natural’ that’s what we’ve been told for years. I believe it, and want to continue to believe it,” argued Richard Lloyd of the National Farmers Union.

The National Farmers Union was strongly opposed to rBGH because of concerns for animal health and farmer livelihood. Concerns for small farmers were central to Canadian evaluations of the risks and benefits of rBGH; confronted with these arguments Monsanto’s presentation of rBGH as an efficient production ‘tool’ began to unravel.

The conflict between Canada’s supply management system and the logic of rBGH highlighted the fundamental question of economic need for this non-therapeutic drug. The particularity of Canada’s system partially accounts for the success of Canadian resistance. In Canada all milk is pooled in a single system where demands for labeling would require segregation and the creation of dual marketing, the expense of which would likely be passed to the consumer. Moreover, the dairy industry operates on the principle of supply management where farmers must buy “quota” which gives them the right to produce and sell a set volume of milk. If a farmer wants to expand production, he or she must purchase additional quota from the pool. Victor Daniel, an Ontario cattle breeder and firm opponent of rBGH, says he was greatly inspired by the generosity of public health agencies, non-governmental organizations, and private citizens in support of Canada’s supply managed dairy industry.⁷ The controversy over rBGH developed in the wake of a national debate over Free Trade that politicized many Canadians and created concern for the future of national industries.

With arguments against rBGH forming in the public, author and activist Brewster Kneen sought out Lorraine Lapointe and the two initiated a “Pure Milk Campaign,” the first organized effort to disseminate information and encourage opposition. The pamphlet of the campaign portrayed rBGH transforming dairy cows into milk machines. Individuals and groups collected thousands of signatures on the first petitions calling for a ban on rBGH.⁸ Brewster and Cathleen Kneen publish *The Ram’s Horn*, a newsletter on food and agriculture issues that played an important role in informing people across the country of the emerging controversy and connected rBGH to the greater issues of genetic engineering and increasing corporate control in agriculture.

Brewster Kneen argues that there were three important strategies at play in the emerging movement in Canada.⁹ First, Kneen stressed the importance of using the name Bovine Growth Hormone (rBGH) to prevent sanitizing the drug with the more neutral-sounding name recombinant bovine somatotropin or rBST. Calling the product Bovine Growth Hormone was important for immediate portrayal of the issues and posed a significant challenge to industry communications strategies. Second, the articulation of farmers’ concerns needed to remain central, ensuring that rBGH was not narrowly defined as a food safety issue. This and the final insistence on labeling rBGH milk if the drug was approved were intuitive reactions that became significant aspects of formidable resistance.

Parliament enters the debate

In November 1993 the United States Food and Drug Administration approved rBGH for sale in the United States. By January 1994 rBGH was weeks away from approval by Health Canada,¹⁰ but in March the House of Commons Standing Committee on Agriculture and Agri-food began hearings into rBGH. The hearings subjected rBGH to a systematic examination by

Members of Parliament (MPs) and gave the public a new opportunity to find information and focus resistance. Newly elected MP Wayne Easter, a retired dairy farmer and past president of the National Farmer's Union, says that the decision to conduct hearings into rBGH "was a direct result of the efforts of the lobbyists representing the pharmaceutical companies meeting with MPs urging support for approval of rBST."¹¹

The House of Commons committee heard testimony from Health Canada officials, farmers, processors, Canadian consumer groups, critics from the United States, and representatives of Monsanto and Eli Lilly (Lilly had also submitted an rBGH product to Health Canada for review but later withdrew it pending Monsanto's approval). The first of many turning points in the hearings was a reference by the National Dairy Council of Canada to research on the possible link of rBGH to cancer.¹² Committee members were shocked that no long-term studies into human health risks had been conducted. MPs were also surprised to learn that Health Canada bases its product reviews on data submitted, and owned, by the drug manufacturers, a situation that the then Director General of Health Canada, Dr. Bill Drennen, admitted he found troubling. MPs were ready to challenge the ability of the health department to review corporate data in the public interest because of a disturbing track record in Health Canada that included the collapse of the Canadian blood supply system, health risks of silicone breast implants, and the lingering memory of thalidomide. The past and present failures of the Canadian government to protect public health haunted the rBGH review throughout the 1990s and opened opportunities for greater scrutiny of the regulatory process.

Mistrust of the manufacturers and of Health Canada pervaded the parliamentary committee hearings and was proven justified in a number of instances, the most striking of which was the testimony of Dr. Len Ritter, the former director of Health Canada's Bureau of Veterinary Drugs (BVD) – the bureau responsible for rBGH review. Ritter, while on unpaid leave from the

BVD, appeared before the Committee as a representative of the Canadian Animal Health Institute (CAHI), an industry lobby group of manufacturers and distributors of veterinary drugs. Jean Szkotnicki, Executive Director of the CAHI, introduced Dr. Ritter as the former director of the BVD who "may be able to enlighten the committee on the review conducted by the bureau."¹³ Ritter replied that he was responsible for the program within Health Canada for some years and declared, "Do we have a safe product? The answer is clearly and emphatically yes." Ritter was accused in the House of Commons of acting as a lobbyist for rBGH manufacturers. He was later cleared of conflict of interest charges by the Deputy Minister of Health but some observers maintain this exoneration was falsified and believe the issue is unresolved.¹⁴

The House of Commons hearings raised the political profile of rBGH. Throughout the committee proceedings Canadians wrote letters to their MPs and called or visited their MPs offices, alerting Members outside the Agriculture Committee to the controversy.¹⁵

The swell of public concern and vocal opposition also persuaded dairy processors that a decision to approve or reject rBGH could not simply be left in the hands of Health Canada.¹⁶ Processors represented by the National Dairy Council of Canada were forced to intervene in the review because of their real fear that milk sales would drop with the approval of rBGH. The dairy council demanded that the government be liable for lost income to processors if milk sales dropped after approval. More importantly, the council called for a two-year moratorium on rBGH. The Dairy Farmers of Canada, though extremely reluctant to do so, was compelled by public pressure, including letters requesting them to oppose rBGH, to recommend a moratorium on rBGH use until consumer confidence could be assured.¹⁷

In its final report, the House of Commons Agriculture and Agri-food Committee recommended that the government implement a two-year moratorium to allow for further examination of the issues, including possible health risks. With public attention continuing to

follow rBGH, the government was persuaded that this recommendation could not be rejected outright.

Across the country people discussed rBGH in their homes and communities and became active. Officials in both Agriculture and Health Canada were flooded with letters and position papers opposing rBGH that came from a surprisingly diverse representation of private individuals, farmers, and citizen and community groups -- groups like the Ukrainian Women's League who started their own letter writing campaign.¹⁸ The Toronto Food Policy Council, an agency of the City of Toronto Board of Health had been introduced to rBGH by Brewster Kneen and had taken an early interest in the issues, successfully linking the food safety concerns of urban consumers with the concerns of farmers.¹⁹ In 1994 the Toronto Board of Health recommended to the government that rBGH not be approved.²⁰ In a letter to the Minister of Health the board also demanded that the Canadian Government label all genetically engineered foods entering the market and conduct socioeconomic impact studies before any new food production technologies were introduced.²¹

Citizens across the country worked in their communities to raise awareness and invite opposition. Among them was Ontario cattle breeder Victor Daniel. Daniel, with the support of his local breeding association, argued that the use of the drug would compromise the abilities of breeders to keep accurate performance records and would therefore destabilize the cattle breeding industry. This was an unexpected and persuasive argument that Daniel presented to the Toronto Food Policy Council. He soon became a council member and met with MPs on the group's behalf. As an individual breeder, Daniel also met with senior bureaucrats at Agriculture Canada who he says acknowledged the seriousness of his some of his main concerns.

For 7 years Richard Lloyd of the National Farmers Union researched the issues around rBGH. Lloyd's work was central in maintaining continuity in resistance from year to year. Lloyd

supplied critical and timely information to public interest groups, community leaders, and politicians and kept the farmer perspective up front. In spite of difficulties organizing farmers who have on-farm responsibilities, Lloyd and others in the National Farmers Union organized a farmer lobby aimed at Members of Parliament.

In August 1994 the Minister of Agriculture responded to the Agriculture Committee's recommendation for a moratorium with a delay on the use and sale of rBGH that, at the suggestion of the drug companies, was negotiated with manufacturers. The government announced a "voluntary moratorium" until July 1, 1995. Though this decision did not meet the demands of opponents and left room for approval of rBGH, it provided an important new opportunity for the public to fight for, and achieve, a final ban.

If again you don't succeed, delay, delay again

A survey conducted by Industry Canada at the end of 1994 showed that 83 per cent of Canadians knew what rBGH was; up to 34 per cent said that they were unlikely to buy milk if rBGH was approved.²² In November 1994 the national television program *The Fifth Estate* aired a documentary on rBGH that included allegations of an attempted bribe by Monsanto of Health Canada. And in December the European Union announced a moratorium until the year 2000.

Public pressure for an extension of the voluntary moratorium increased as the July expiration approached. It was at this point that many of the individuals and groups opposing rBGH came together in a coordinated effort. The NFU was joined in their efforts by the Council of Canadians, a 35,000-member strong citizen advocacy group that had formed in 1985 to fight Free Trade and promote democracy. The Council became a support centre for the vital and diverse resistance that was still growing across the country and was central in coordinating

strategy and organizing groups. Council campaigner Alex Boston offered information and advice to local activists but also coordinated a national strategy with the National Farmers Union as well as the Canadian Farm Women's League, the Canadian Environmental Network, and the Canadian Institute for Environmental Law and Policy.

The Council of Canadians and the National Farmers Union designed a postcard campaign and more than 100,000 individuals sent postcards to the Minister of Health that began; "I want to continue to trust Canadian dairy products." Within three months of their campaign the Council of Canadians had created a database of 2500 Canadians who were actively opposing rBGH. At this time people were meeting with local politicians, circulating information, and asking their municipal councils and school boards to take positions. Across the country people placed petitions in health food and farm supply stores. One health food magazine alone collected 500,000 names on petitions.²³

With a common message, the diverse interests together lobbied MPs. The shared strategy brought together 350 organizations including farmers, breeders, processors, health professionals, environmentalists, lawyers, school districts, public health agencies and consumers, demanding an extended moratorium.²⁴ In a Council of Canadians press conference Members of Parliament from all parties demanded an extension of the moratorium and presented Council petitions signed by 200,000 Canadians; "If this government does not extend the moratorium, this will truly be a fundamental miscarriage of the democratic process," argued Council campaigner Alex Boston.²⁵

The newly energized and coordinated resistance propelled rBGH into the media and almost daily through the spring of 1995. Members of Parliament made statements and asked questions about rBGH in the House of Commons.²⁶ Richard Lloyd of the National Farmers Union believes that by the end of June, rBGH was on the top of the parliamentary agenda and the debate had reached the Prime Minister's Office.²⁷ The Council of Canadians approached the

Standing Committee on Health and half a month away from the end of the voluntary moratorium the committee recommended that the Minister of Health should, "do all within her power to seek a prolongation of the voluntary moratorium on rBST, for a minimum of two years to allow Members of Parliament to further examine the human health implications."²⁸

The prospect of a ministerial request for an extended moratorium was met with threats from Monsanto and Eli Lilly that they would pull their investments out of Canada. But such corporate pressure tactics only fed suspicion and further turned public opinion against commercialization. "What they are saying is blackmail and nothing less," responded MP Wayne Easter.²⁹

No extension was legislated or negotiated by the Canadian government but a few months after the end of the moratorium, the Minister of Agriculture reported that regulators in Health Canada had asked Monsanto for more data on animal health, delaying approval once again. The Minister declared that this delay, what would amount to a year or longer, was proof that the regulatory system was working.³⁰ The details that later emerged from inside Health Canada tell an entirely different story.

Inside Health Canada: Intimidation, Bribes and Theft

While the controversy over rBGH raged in the public, news media, and in Parliament, scientists inside the Bureau of Veterinary Drugs (BVD) in the Health Protection Branch of Health Canada were fighting their own battle against pressure to issue a Notice of Compliance that would permit the sale of rBGH.

Dr. Margaret Haydon is a veterinary scientist who has worked in the BVD for 15 years and began reviewing rBGH products in 1984. Dr. Haydon testified at a 1998 labor-board hearing that she was pressured by the then Director, Dr. Len Ritter, to issue a "Conditional Notice of Compliance" for Eli Lilly's rBGH product.³¹ Dr. Haydon had never heard of this kind of approval and refused to comply. Years later in a letter to the Senate Agriculture Committee, the Assistant Deputy Minister of the Health Protection Branch, Dr. Joseph Losos, explained that this was merely a misunderstanding on behalf of Dr. Ritter who had recently come from a bureau where conditional notices were legal.³² Documents received through Access to Information rules show however that as late as 1997 managers in Health Canada planned, "to investigate the scenarios under which Human Drugs [Directorate] may be approving drugs to be used prior to full approval."³³

The same year that Dr. Haydon was pressured to sign a conditional notice of compliance some of her files, amounting to most of her work on rBGH over the previous ten years, were stolen from locked cabinets in her office in what she says must have been an "inside job."³⁴ Days after she noticed files were missing, her office was broken into a second time and files were stuffed back into her cabinet. She reported the incidents to the police but an investigation produced no suspects. Dr. Haydon was subsequently removed from the rBGH review with no explanation.

In 1996 Health Canada introduced a program of "cost recovery" that requires drug companies to pay a portion, between 70 and 90 per cent, of the costs of each product review. The Bureau of Veterinary Drugs reduced its budget in anticipation of this income.³⁵ For Dr. Haydon and a number of other scientists in the department, cost recovery increased the direct influence of chemical and pharmaceutical corporations over their work. At least one drug company wrote to Health Canada demanding that, as a paying client, the review of its product be expedited. Drug

companies have access, through participation in a Joint Program Management Advisory Committee, to the names of the scientists reviewing their data and some companies have written to department managers requesting that particular scientists be removed from reviews if they were seen as working too slowly. Despite such direct attacks, the scientists persevered.

Signs of pressures inside Health Canada were beginning to be reported in the print news in late 1997. Dr. Haydon and her colleague Dr. Shiv Chopra were interviewed on national television and asked why they thought they were under pressure to approve drugs quickly. Dr. Chopra replied, "Well, what do you think? Money. For multinational companies that produce those things."³⁶ His frankness and that of Dr. Haydon was rewarded with threats from their managers in Health Canada. Dr. Chopra was invited to speak about the Canadian regulatory system at a community panel on genetic engineering in Ottawa but on the day of the event received a registered letter, e-mail message, and fax from his superior instructing him not to attend on threat of losing his job. Dr. Chopra and Dr. Haydon are still prohibited by Health Canada from speaking to the media or public but are challenging this restriction on their freedom of speech in the Federal Court of Canada.

In 1998, Dr. Haydon, Dr. Chopra and four colleagues in the Bureau of Veterinary Drugs filed a grievance with their union, the Professional Institute of the Public Service. They complained that they had been reassigned away from controversial reviews to new duties under the pretext of relieving a backlog. The six alleged that they were transferred away from important files in retaliatory measures for their efforts to ensure rigorous product review. When mediation with management failed the scientists took their complaint to a labor-board hearing where they charged that they were being harassed to approve rBGH and other veterinary drugs despite their safety concerns. Providing an unprecedented window into the review process, the grievance hearings also presented new space for resistance. The Council of Canadians and the

Sierra Club of Canada held a press conference in support of the scientists. The media covered the two-day hearings and ten members of the public attended both days. The public and media were given a second opportunity to hear the scientists' story when their testimony was requested at Senate hearings only one month later.

The Senate of Canada hears from the scientists

In May 1998 the Senate of Canada unanimously passed a motion urging the government to defer licensing of rBGH until long-term risks to human health were determined. A month later the Senate Committee on Agriculture and Forestry began hearings into rBGH. Some Senators had heard of a report within Health Canada that assessed the status of the rBGH review but Health Canada officials provided the Committee with only a heavily censored version of the "Gaps Analysis Report" until the full report found its way onto the web site of the National Farmers Union. The details of the report focused Senators' questions on the human health risks of rBGH as well as the conduct of Health Canada managers.

At the core of the Gaps Report was the analysis of Monsanto's short-term toxicology study, a ninety-day test on just thirty rats. The study showed that orally administered rBGH was absorbed into the blood stream with adverse affects.³⁷ The results of Monsanto's test had never been published.

Dr. Chopra and the three other authors of the Gaps Analysis Report concluded that, "the nature of the product (being a hormone) and its chemistry should have prompted more exhaustive and longer toxicological studies in laboratory animals,"³⁸ and that "[b]oth procedural and data gaps were found which fail to properly address the human safety requirements of this drug under the Food and Drugs Act and Regulations."³⁹ With the Gaps Analysis in hand and no

satisfactory response from Monsanto, the Senate Committee recommended that the company conduct long-term human health studies.

The new information and damning critique of the Gaps Analysis had international significance and became the basis of a challenge to rBGH approval in the United States. The U.S. Center for Food Safety and more than two dozen U.S. consumer groups demanded that the Food and Drug Administration reverse its decision because of the new details they say were not considered in the U.S. review.⁴⁰

As well as bringing to light previously unknown problems with Monsanto's data, the Gaps Analysis revealed that the degree of industry influence inside Health Canada was worse than critics had ever suspected.⁴¹ The report also showed that research conducted by Victor Daniel and the Toronto Food Policy Council had become a part of Health Canada's review process; Council letters to Health Canada with pointed questions challenging the science used in the review appeared in the appendices of the report.⁴²

The Senate Committee requested the testimony of the scientists who worked on the rBGH file and those who authored the Gaps Analysis Report. Among them were Drs. Margaret Haydon, Shiv Chopra and Gerard Lambert- three of the six Health Canada scientists who had filed grievances against their managers. Before appearing at the hearings, the three sought, and were granted, assurance from the Minister of Health that their testimony would not put their jobs in jeopardy. In opening testimony the three took the unprecedented step of reading aloud the oath under which they were to answer the Senator's questions. The scientists then recounted the pressure tactics of their managers, in close relationship with Monsanto representatives, and explained their concerns with rBGH. The drama of their testimony was reported in the national newspaper *The Globe and Mail* and on national television news. The media highlighted the story, first reported in 1994, of a meeting attended by Dr. Margaret Haydon where she and Dr. Bill

Drennen, then Director General of the Health Protection Branch, say a Monsanto official offered a bribe of one to two million-dollars in return for approval of rBGH without further delay.⁴³

Closing the Gaps

A panel of the Canadian Veterinary Medicine Association confirmed that there were a number of legitimate animal welfare concerns associated with the use of rBGH, including increased risks of lameness and clinical mastitis (a painful udder infection), as well as shortened lifespan.⁴⁴ The panel's conclusions vindicated farmers and confirmed some of the concerns articulated by the Health Canada scientists, in particular Dr. Haydon. When Health Canada managers finally rejected rBGH they used these conclusions on animal health to explain their decision.

On January 14 1999, the *Toronto Globe and Mail* reported that Health Canada would be rejecting Monsanto's application for rBGH. At a tightly controlled news briefing on January 15, before the panel on human health had concluded, Health Canada officials announced that rBGH would not be approved "at this time."⁴⁵ "With all of this scientific information available, we saw no reason to delay the decision any longer," said Health Canada spokesman Joel Wiener.⁴⁶ Following the high profile Senate hearings, this rejection was national news.

Victor Daniel of the Toronto Food Policy Council describes Health Canada's decision as, "the right answer for the wrong reasons."⁴⁷ Rather than responding directly to the concerns of Canadians, after ten years of delays forced by public pressure made approval too politically difficult, Health Canada took the last of many opportunities to refuse rBGH.

Conclusion

The resistance to rBGH in Canada was a grassroots movement that persisted and grew through ten years. The diversity of the opposition was its greatest strength; farmers spoke out against animal ill health and threats to the dairy industry, consumers demanded safe milk, and government scientists exposed industry pressure and inadequate science. Each voice in opposition was a strong and legitimate voice for a constituency of people who were actively opposed to rBGH. The Council of Canadian's structured common opposition at strategic moments and helped sustain the diversity of the movement, giving local resistance a more prominent face and pushing rBGH into the media.

With a truly grassroots and national movement against rBGH, Monsanto was unable to target individuals or groups to discredit. Canadians organized to defeat rBGH without a national organization concerned with food issues or a visible consumer's movement. The scrutiny of rBGH by both MPs and Senators restored hope in Canada that the mechanisms of the parliamentary system can function for the public interest.

Notes

¹ CBC-TV *The National Magazine* 14 January 1999.

² Peter Dowling quoted in National Farmers Union News Release, "Ban on Bovine Growth Hormone A Victory for Canadian Cows, Farmers, and Consumers," January 15 1999.

³ "rBST (Nutrilac) "Gaps Analysis" Report," rBST Internal Review Team, Health Protection Branch, Health Canada, 21 April 1998.

⁴ Matte, Kempton National Dairy Council of Canada, House of Commons Committee on Agriculture and Agri-Food, Testimony, Issue 4:5, 8 March 1994.

⁵ Lapointe, Lorraine, Telephone interview, 15 March 1999.

⁶ Lapointe, Lorraine, Standing Senate Committee on Agriculture and Forestry, Testimony, 29 October 1998.

⁷ Daniel, Victor, Telephone interview, 20 March 1999.

⁸ Kneen, Brewster, *Farmageddon: Food and the Culture of Biotechnology*, Gabriola Island, B.C.: New Society Publishers, 1999.

⁹ Ibid.

¹⁰ O'Neil, Mike telephone interview, 9 March 1999.

¹¹ Easter, Wayne, Telephone interview, 19 September 1995.

¹² O'Neil, Mike, Telephone interview, 9 March 1999.

¹³ House of Commons Standing Committee on Agriculture and Agri-Food, Testimony, Issue 5:32, 8 March 1994.

¹⁴ *The Globe and Mail* Tuesday 13 December 1994.

¹⁵ O'Neil, Mike, Telephone interview, 9 March 1999.

¹⁶ MacRae, Rod, Telephone interview, 25 March 1999.

¹⁷ Oosterhoff, Peter, House of Commons Committee on Agriculture and Agri-Food, Committee 1995 Issue 3:16.

¹⁸ Boston, Alex, Telephone interview, 20 March 1999.

¹⁹ Lloyd, Richard, Telephone interview, 1 March 1999.

²⁰ City of Toronto, Board of Health, Letter to Minister of Health, Diane Marleau, 1 June 1994.

²¹ City of Toronto, City Clerk's Department, letter to Minister of Health, Diane Marleau, 1 June 1994.

²² Optima Consulting, "Understanding the Consumer Interest in the New Biotechnology Industry," November 1994.

²³ Lloyd, Richard and Helen Forsey, "Cows on Steroids? No Thanks!," *Natural Life*, Sept./Oct. 1998.

²⁴ Council of Canadians, *Canadian Perspectives*, "Local Action BGH update: Time to turn up the heat," Autumn 1995: 14.

²⁵ Press Release 16 June

²⁶ Editorial, "BST and Corn," *Ontario Corn Producer*, Aug./Sept. 1995.

²⁷ Lloyd, Richard, Telephone interview, 12 September 1995.

²⁸ House of Commons Committee on Health, 15 June 1995.

²⁹ Ibid.

³⁰ "Approval of BST use delayed for one year" *The Western Producer*, 5 October 1995

³¹ Notes from the Public Service Staff Relations Board grievance hearings, Lucy Sharratt, 15-16 September 1998, Ottawa.

³² testimony

³³ George Paterson memo to Ian Alexander 05/02/97 "re: teleconference with AAFC re: rBST", May 15 1997" 2 May 1997.

³⁴ Notes from the Public Service Staff Relations Board grievance hearings, Lucy Sharratt, 15-16 September 1998, Ottawa.

³⁵ Ibid.

³⁶ CTV-TV *Canada Am* 11 June 1998.

³⁷ "rBST (Nutrilac) "Gaps Analysis" Report, rBST Internal Review Team, Health Protection Branch, Health Canada, 21 April 1998,

³⁸ Ibid., p. 30

³⁹ Ibid., p. 4

⁴⁰ "Legal challenge filed with FDA to remove Monsanto's BGH from the market," 15 December, 1998, Release, Environmental Media Services, Washington

⁴¹ Rod MacRae, Telephone interview, 25 March 1998.

⁴² Ibid.

⁴³ CBC-TV, *The Fifth Estate*, 29 November 1994.

⁴⁴ Canadian Veterinary Medical Association, "Report of the Canadian Veterinary Medical Association Expert Panel on rBST - Executive Summary," November 1998

⁴⁵ Canadian Health Coalition letter to Minister of Health Allan Rock, 26 January 26, 1999.

⁴⁶ Health Canada, News Release, "Health Canada rejects bovine growth hormone in Canada," 14 January

1999. The panel that examined human health risks concluded that milk produced with rBGH was safe, but this report has been criticized in Canada and the UK for failing to reference some important health studies.

⁴⁷ Victor Daniel, Telephone interview, 20 March 1998.