CREATING NEW YORK STATE POLICY FOR THE ELIMINATION OF OPEN WASTE BURNING

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Introduction
The aim of this study was to provide an example of how State policy can be developed for the elimination of dioxins released into the environment by open waste burning.

Methods and Materials
Methods and materials utilized were those of verbal communication: telephone, Internet information gathering, e-mail, oral presentations, one-on-one public contact, advertising, and postal service mailings.

Results and Discussion
New York State counties, including: Lewis, Jefferson, St. Lawrence, Franklin, and Clinton, comprise a vast milk production area. Across the Canadian border, the counties of: Leeds, Grenville, Dundas, Stormont, and Glengarry in the Province of Ontario, further expand this dairy farming region (Latitude: 43 degrees, 30 minutes North to 45 degrees, 30 minutes North; Longitude: 74 degrees, 30 minutes West to 76 degrees, 15 minutes West). Five hundred million pounds of liquid milk are shipped each year from St. Lawrence County alone to the New York metropolitan area.

Open waste burning activity has been most carefully evaluated for St. Lawrence County, New York. Backyard barrel and agribusiness refuse heap burning are heavy local sources of PTS releases. A survey of open waste burning, conducted by the St. Lawrence County Planning Office in 1993, estimated a minimum of 10,000 burn barrels for the County. A high percentage of the 1000-plus farms burn waste plastics, rubber, foam rubber, pressure treated lumber, metal foils and paper in on-farm refuse heaps. From 1993 until approximately the end of the decade, the number of residents who utilized burning barrels had been increasing. During the last few years, there appears to have been some reduction in the amount of open burning taking place, but it is our opinion that this has not yet caused the problem to diminish in magnitude to the extent that the 1993 levels would be an overestimate of current burning. A recent study by the County's Planning Office confirms this conclusion.

The 1997 US EPA report, "Evaluation of Emissions from the Open Burning of Household Waste in Barrels", provided a quantification of pollutant releases.[1] The author indicates that burning the residential waste (paper, plastics, rubber, foam rubber and metal foils) of 1.5 families in barrels can release an amount of dioxins into the environment equal to that released by a municipal solid waste incinerator burning 200 tons per day. In follow-up test burns, the Agency has determined that open waste burning creates and releases dioxins over a considerable range of values due to the highly complex nature of combustion.[2]

Cancer Action NY began lobbying Town Boards and County Legislatures throughout the North Country for local bans, and the New York State Legislature for a statewide ban in 2000. Encountering considerable resistance to the enactment of such laws, we have set about building public support. Numerous strategies have been employed to focus public attention upon the adverse health effects of exposure to open burning emissions: milk dumping in Supermarkets and government office buildings, petition drives, sign-on letters and public presentations at local government meetings. One of our most effective efforts brought letters and e-mails from PTS elimination activists and organizations around the globe to the offices of key New York State Legislators. We have conducted several Green Party campaigns for elected public office, in which open waste burning elimination was an important element of the platform.

During the Spring of 2002, Cancer Action NY sponsored the first annual Dioxin Elimination Lobby Day at the New York State Capitol. We advocated for passage of an open waste burning ban, education upon the health damaging effects of open burning and a Green labeling law, which would require that known human carcinogens be listed as being present in commercial products.

The portrayal of open waste burning elimination as cancer prevention has been very important to our success in raising public awareness. Due to the fact that the North Country region of New York State suffers relatively high rates of lung cancer, breast cancer, prostate cancer and colorectal cancer, we have made the messages of the US Environmental Protection Agency's dioxin reassessment and precaution central to our information provision activities.[3]

It has been recognized for a considerable number of years that a possible association exists between the consumption of animal fat foods and certain cancers. [4,5] When the contamination of animal fats with dioxins and certain other persistent organochloride pollutants (POPs), which have been designated as known human carcinogens, is taken into account, it becomes clear that part of the cancer risk imposed by fat consumption can be attributed to these contaminants.

An article titled, "Serum Dioxin Concentrations and Breast Cancer Risk in the Seveso Women's Health Study", was recently published in Environmental Health Perspectives, the research journal of the National Institute of Environmental Health Sciences.[6] Residents of the Seveso region of Italy were exposed to high levels of dioxins as the result of an explosion at a chemical factory. A statistically significant association between dioxin levels in blood serum and breast cancer incidence was reported in this study.

According to the United States Environmental Protection Agency, over 90 percent of the American public's exposure to dioxins comes from the consumption of foods containing milk fat, fish fat, tallow and other animal fats. Particulates, upon which are adsorbed dioxins and dioxin-like compounds, deposit from the polluted atmosphere onto animal feed crops such as pasture grass and corn. Entry into the aquatic food chains occurs via contamination of surface waters. The average American's dioxin exposure thus takes place at lower levels of food contamination than that which existed in the Seveso Women's Health Study. Nevertheless, the association demonstrated by this research should be taken into account for the purpose of determining a precautionary approach in so far as breast cancer prevention is concerned. Women need to significantly lower their intake of animal fat foods as a breast cancer preventive measure.

The United States Environmental Protection Agency has upgraded the cancer risk of dioxin exposure via consumption of dairy foods, beef and freshwater fish substantially. In June of 2000, a first draft section of the Agency's dioxin reassessment, "Part III: Integrated Summary and Risk Characterization for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) and Related Compounds", set forth the research basis for this change. Dioxins' carcinogenic effects have been studied extensively in several exposed groups: workers who manufactured or applied dioxin contaminated pesticides, including pentachlorophenol, and 2,4,5-T; victims of an industrial accident in Seveso, Italy, which released kilogram amounts of dioxin; and US Air Force personnel engaged in Project Ranch Hand, the spraying of Agent Orange during the Vietnam War.

Utilizing data from the epidemiologic studies (Hamburg herbicide factory cohort) in which highest dioxin sensitivity was demonstrated, people who consume animal fat at a rate which confers an intake of 3.8 pg dioxin TEQ/kg body weight/day have an approximately 2 in 100 upper-bound excess risk of developing cancer due to the dioxin contaminant exposure. A person weighing 130 pounds and drinking 2 quarts of whole milk per day receives on average such a dose of dioxin TEQ from the contaminants present in the milk fat.

Those populations experiencing elevated incidences of breast cancer, lung cancer, colorectal cancer and prostate cancer must be educated upon the cancer preventive value of reducing consumption of animal fat foods. Seven zip codes located in north/central Suffolk County have

been identified by the New York State Department of Health as an area of high breast cancer risk. An investigation of the possible causes of breast cancer in this area has now been commenced. During the period of this study, NYS DOH should be providing public education on how residents can begin reducing their cancer risk via avoidance of those exposure sources, which have already been identified. Cancer Action NY is in the final stages of producing a film, which tells the story of open waste burning elimination as breast cancer prevention. It is our intention to use this film for developing alliances with breast cancer action groups.

The New York State Assembly has repeatedly passed its version of an open burning ban. Opposition from the New York Farm Bureau, combined with the fact that large numbers of rural constituents practice open burning, has stopped the Senate from taking any significant action toward passage. We believe that the New York State Senate can be motivated to pass a bill banning open waste burning once we have joined forces with Long Island breast cancer coalitions. This is our expectation because the Environmental Conservation Chair, Carl Marcellino and the Health Chair, Kemp Hannon are both Long Island Senators.

Having recognized the political difficulties associated with achieving a legislative ban on open waste burning, CANY has decided to lobby for the passage of legislation that would establish a statewide educational program aimed at raising public awareness of the damages to health, which result from exposure to open waste fire emissions. We have thus far succeeded in having such legislation introduced in the New York State Senate, bill No. 2428. The Assembly has introduced similar legislation, bill No. 1391. The message that New Yorkers need to hear is that found in the US Environmental Protection Agency's dioxin reassessment. Many of those who currently burn will choose not to do so upon learning of health damaging effects, such as asthma, endocrine disruption and cancer. Many others will be motivated to call for changes, which are protective of the public air resource. It is our expectation that within a short number of years after open burning education begins, it will be possible to legislate a ban. A health conscious public will be loudly calling for this action.

Beginning in 2001, CANY has attended the New York State Fair for the purpose of raising public awareness of the need to eliminate open waste burning. We distributed information at the Indian Village with emphasis on dioxin contamination of Lake Ontario and St. Lawrence River fish. At the Dairy Cattle barn, we spoke with farm families about the cancer risk imposed by dioxin contamination of New York's milk supply.

Cancer Action NY has recognized the need for regional testing of animal fat foods. Due to the fact that many people consume dairy products from one region only, any significant difference between levels of contamination for various regions would have relevance to regional public health. In areas where open waste burning is prevalent it is reasonable to expect that dioxin contamination would exist at higher levels than in areas where only limited burning occurs. Several requests have been made of the US Food and Drug Administration, the NYS DOH and the New York City Department of Health for dioxin testing of St. Lawrence County dairy products. All of these requests from CANY have been denied. Without adequate funds to conduct our own dioxin testing, we have begun to gather data on PCB levels in St. Lawrence County milk. In December of 2002, a whole milk sample (taken directly from the cow) was submitted for analysis to the laboratory at the State University of New York at Albany School of Public Health. Total PCB concentration in the milk fat of this sample was reported at 143.6 ng/g. The average concentration of TEQ PCB in Belgian milk fat, as reported by Focant, et al, was 1.14 ppt.[7] The concentration of TEQ PCB in the St. Lawrence County milk fat was 1.36 ppt.

Working together with other member groups of the New York State Breast Cancer Network (NYS BCN) has been particularly effective. During the past several years, prevention has come to be a focus of the NYS BCN. We conduct an Advocacy Day each year in the New York State Capitol. CANY lobbied a total of eight members of the Legislature for the Network's slate of priority bills plus those bills that would provide for the elimination of open waste burning by way of banning and education. We are hopeful that our interaction with the NYS BCN will eventually result in

the adoption of open burning elimination as a legislative priority. A clear indicator that this is taking shape was the media interest generated by combined message of breast cancer prevention and open waste burning elimination: WFUV, a public radio station at Fordham University in New York City and one of Albany's major radio stations gave us lengthy interviews; and the Associated Press highlighted this activism.

Our most recent initiative has involved bringing the message of dioxin exposure as breast cancer risk to the attention of Health instructors. Section 804 of Public Health Law requires New York State high school Health classes to include education on the subject of breast cancer prevention. It has been encouraging to find that these educators were already somewhat familiar with the facts of animal fat consumption as a cancer risk factor, this being due to the work of the American Institute for Cancer Research, Physicians Committee for Responsible Medicine and other such organizations. Having provided literature on dioxin exposure as breast cancer risk to many of the Health instructors of the North Country, we are shifting our efforts to Long Island high schools.

Disposal of solid waste by open burning is a deeply ingrained habit, bound up with the people's long use of fire. Experience seeking to eliminate the practice has taught our group that such change requires the passage of a considerable number of years. The rate of progress is most quickened by continuous effort on all levels of societal organization: neighborhood, town, county and state. By bringing the issue before the public again and again in an unending variety of ways, the wonderful powers of creativity are tapped for environmental health protection.

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