

# ***THE ST. LAWRENCE COUNTY PLANNING OFFICE***

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## **MEMORANDUM**

**To:** Members of the Public  
**From:** Jon Montan, Planner III, St. Lawrence County Open Burning Awareness Campaign  
**Date:** 7/18/03  
**Re:** *Summary of Important Report on Dioxins in the Food Chain*

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As part of the County's Open Burning Awareness Campaign, I am attempting to bring new data, studies, reports and recommendations to the attention of decision-makers and the general public. One such report is **Dioxins and Dioxin-like Compounds in the Food Supply - Strategies to Decrease Exposure**, published by The Institute of Medicine of the National Academies, Copyright © 2003 by the National Academy of Sciences. The full report is viewable at the following website: <http://books.nap.edu/books/0309089611/html/index.html>

I have prepared a brief summary of the report, at the end of this memo, for your information. The findings of this report are important, alarming and need to be widely known.

**Certain findings in this report and also in EPA studies leap out:**

- 1. Dioxins and dioxin-like compounds (DLC) cause the following effects in people (from U.S. EPA):**
  - \* **Cardiovascular Disease**
  - \* **Diabetes**
  - \* **Cancer**
  - \* **Porphyria**
  - \* **Endometriosis**
  - \* **Decreased Testosterone**
  - \* **Developmental**
  - **Thyroid Status**
  - **Immune System**
  - **Neurobehavior**
  - **Cognition**
  - **Dentition**
  - **Altered Sex Ratio**
- 2. Backyard Burning is the major quantifiable source of dioxins in the U.S.**

3. **Aerial transport of DLC-containing emissions is considered the primary pathway of entry into the food chain.**
4. **DLCs accumulate in fat (fat-soluble).**
5. **DLCs persist for many years in the environment.**
6. **Consumption of whole milk and full-fat dairy products represents the major source of DLC intake exposure among children in the United States.**
7. **It is recommended that government-sponsored food programs reduce the amount of animal fats and switch to skim milk or low-fat milk in order to reduce exposure.**
8. **Girls and young women should reduce exposure to DLCs well before pregnancy in order to protect fetuses and breastfed infants.**
9. **Governments have been urged to consider a focused effort, as part of an integrated risk-management strategy, to reduce unregulated (e.g., backyard) burning, especially in animal production areas.**

**We can each do our part to help reduce dioxins and dioxin-like compounds in the environment (and in our food) by not burning trash. This is a clear case of a preventable pollution problem – preventable by each one of us, one barrel at a time.**

## Summary of:

### Dioxins and Dioxin-like Compounds in the Food Supply- Strategies to Decrease Exposure

**Published by:** The Institute of Medicine of the National Academies,  
Copyright © 2003 by the National Academy of Sciences

**Funding:** U.S. Food and Drug Administration of the US Dept. of Health  
and Human Services and the US Department of Agriculture

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#### **Charge of the Committee that authored the report:**

- Review research on accumulation of Dioxin-Like Compounds (DLC) from consuming a variety of foods.
- Review food-consumption patterns of various population subgroups that appear to be at increased risk.
- Identify possible risk-management options to reduce exposure to dioxins.
- Identify ways to reduce exposure through risk communication initiatives and federal food and nutrition policies.

#### **Sources of DLCs in the Environment:**

The attached table shows major sources of dioxins (measured in toxicity equivalents). *Note that backyard burning has become the largest quantifiable source in the U.S.*

#### **Strategic and High-Priority Risk-Management and Research Recommendations:**

- Strengthen interagency coordination for DLC risk management.
- Interrupt the cycle of DLCs through forage, animal feed, and food-producing animals.
- Reduce DLC intakes in girls and young women.
- Develop cost-effective analytic methods and reevaluate the use of toxicity equivalents in assessing DLC exposure.
- Increase research efforts aimed at removing DLCs from animal forage and feed.

- Expand the National Health and Nutrition Examination Survey's data collection of DLC body burdens.
- Increase research efforts on the effects of dietary DLCs on fetuses and breastfeeding infants.
- Increase behavioral research on achieving dietary change.
- Develop predictive modeling tools and apply them in studies to assess the effects of potential interventions on reducing DLCs in the food supply.
- ***Take steps, as an immediate intervention, to increase the availability of foods low in animal fat in government-sponsored school breakfast and lunch programs and in child- and adult-care food programs. Specifically, the committee recommends that low-fat or skim milk be used.***
- ***Consider a focused effort by government, as part of an integrated risk-management strategy, to reduce unregulated (e.g., backyard) burning, especially in animal production areas.***
- Trim fat from meat products.
- Provide advisories and education to highly-exposed populations.
- Educate the general population about strategies for reducing exposure to DLCs.

The report may be viewed and downloaded (a page at a time) from the following website:

<http://books.nap.edu/books/0309089611/html/index.html>

From: Dioxins and Dioxin-like Compounds in the Food Supply-  
Strategies to Decrease Exposure

Published by: The Institute of Medicine of the National Academies,  
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Dioxins and Dioxin-like Compounds in the Food Supply: Strategies to Decrease Exposure (2003)  
<http://www.nap.edu/openbook/0309089611/Ann1247.html>, copyright 2003, 2001 The National Academy of Sciences, all rights reserved

**TABLE A-28 Sources of Dioxin in the United States, May 2000**

Source	1987 Emissions (g TEQ <sub>dioxin</sub> /y)	1995 Emissions (g TEQ <sub>dioxin</sub> /y)	2002/2004 Emissions (g TEQ <sub>dioxin</sub> /y)
Municipal solid waste incineration, air	8877.0	1250.0	12.0
Backyard barrel burning, air	604.0	628.0	628.0
Medical waste incineration, air	2590.0	488.0	7.0
Secondary copper smelting, air	983.0	271.0	5.0
Cement kilns (hazardous waste), air	117.8	156.1	7.7
Sewage sludge/land applied, land	76.6	76.6	76.6
Residential wood burning, air	89.6	62.8	62.8
Coal-fired utilities, air	50.8	60.1	60.1
Diesel trucks, air	27.8	35.5	35.5
Secondary aluminum smelting, air	16.3	29.1	29.1
2,4-D, land	33.4	28.9	28.9
Iron ore sintering, air	32.7	28.0	28.0
Industrial wood burning, air	26.4	27.6	27.6
Bleached pulp and paper mills, water	356.0	19.5	12.0
Cement kilns (nonhazardous waste), air	13.7	17.8	17.8
Sewage sludge incineration, air	6.1	14.8	14.8
EDC/vinyl chloride, air	NA	11.2	11.2
Oil-fired utilities, air	17.8	10.7	10.7
Crematoria, air	5.5	9.1	9.1
Unleaded gasoline, air	3.6	5.9	5.9
Hazardous waste incineration, air	5.0	5.8	3.5
Lightweight ag kilns, hazardous waste, air	2.4	3.3	0.4
Kraft black liquor boilers, air	2.0	2.3	2.3
Petrol refine catalyst reg., air	2.2	2.2	2.2
Leaded gasoline, air	37.5	2.0	2.0
Secondary lead smelting, air	1.2	1.7	1.7
Paper mill sludge, land	14.1	1.4	1.4
Cigarette Smoke, air	1.0	0.8	0.8
EDC/vinyl chloride, land	NA	0.7	0.7
EDC/vinyl chloride, water	NA	0.4	0.4
Boilers/industrial furnaces, air	0.8	0.4	0.4
Tire combustion, air	0.1	0.1	0.1
Drum reclamation, air	0.1	0.1	0.1
Totals	13,995	3,252	1,106
Reduction from 1987		77%	92%