

Supermarket Tour – Health Chapter

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In Sickness and In Health Supermarket Tour Book

Where do you get your water from? Do you trust it?

The health effects and political issues around "Bottled water"

"North Americans sure are thirsty; Bottled water has become the indispensable prop in our lives and our culture"; once you understand where the water comes from, and how it got here, it's hard to look at that bottle in the same way again."

- Charles Fishman

Do you know?

- Bottled water is regulated as a food product by the federal government through Health Canada.¹
- Between 1993 and 2003, bottled water saw consumption double to more than 22.6 gallons per capita.

Sales increased dramatically from a considerable 3.3 billion in 1997, to an astounding 15 billion just five years later.²

On the contrary, one billion or approximately 1/6 of the world's population does not have dependable, safe drinking water.

Familiar names to consumers including Nestlé, Danone, Coca-Cola and PepsiCo, controlled 33 per cent of the bottled water market in 2006 and is their control of the markets is growing³

One in five Canadians exclusively consumes water that is bottled.⁴

The younger generation views tap water with disdain and water fountains with suspicion.⁵ In November of 2007 the City of Toronto considered a *bottled-water tax*. This reflects a decision already implemented by the City of Chicago.⁶

The response by the Canadian Bottled Water Association is that "there is no justification for imposing a discriminatory tax on a staple grocery item -especially one that promotes *good health*"⁷. Consumption of bottled water is set to outgrow the soft-drink beverage by 2009⁸. Bottled water offers a great alternative to carbonated beverages such as a 16-ounce Coke and is quite arguably a healthier choice⁹. But is bottled water a sustainable healthy choice?

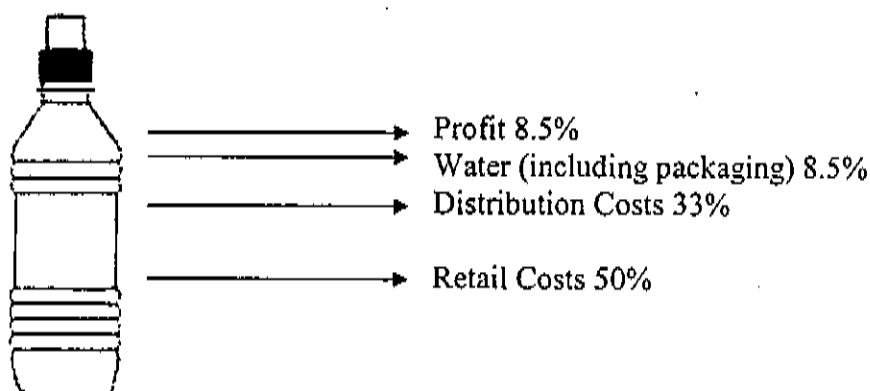
The assumption that bottled-water is a safer alternative to tap water is a controversial issue. It cannot be assumed that all bottled water is safer than tap water.¹⁰ Questions of sustainability regarding bottling water and transporting it great distances have considerable health implications.¹¹

Traces of E.coli are deemed to be acceptable in bottled water where E.coli in tap water is prohibited under Federal legislation as well, regular testing of bottled water is often only a fraction of a townships water inspection.¹² Bottled water is not included under *Ontario's Safe Drinking Water Act* or regulations.¹³

Added Expense?

The Economics of Bottled Water

A typical \$1.29 bottle of water



Consumers choose to buy bottled water at four times the cost of gasoline for its alleged benefits.¹⁴

These connections can be made through-out the food system and emphasize the importance to understand society's lack of access to its most important natural resource. To put into perspective if North Americans were to pay for home water service costs at the price of the "cheapest" bottled water available, water bills would have a monthly average of \$9,000.¹⁵ Blue Mountain, near Collingwood ON, banned bottled-water in city buildings for more holistic health reasons, the environment.¹⁶

Mayor Ellen Anderson justified her councils and communities decision; *"You have perfectly good drinking water from your tap. It's safe drinking water, it's regulated by the province. When we continue to buy bottled water we take from a natural resource and we contribute to a huge cost in regards to the processing of garbage. Think about the packaging that it comes in."*¹⁷

Are these purchases deterring shoppers from other *healthy* food purchases by being unreasonably priced as well as a burden for consumers and communities based on size and weight?

Thinking Globally

It is easier for a North American customer to get a drink of safe and pure Fiji water with more than a million bottles a day supplied, while at the same time half the people in Fiji are without safe, reliable drinking water.¹⁸

Profiles of various food additives in our food

Health Canada's Definition of: FOOD ADDITIVE IS *any chemical substance that is added to food during preparation or storage and either becomes a part of the food or affects its characteristics for the purpose of achieving a particular technical effect. For example, substances that are used to enhance the appearance, texture, or keeping qualities of a food or serve as essential aids in the processing of food are all considered to be food additives*

What additives do

In general, food additives are used in food to:

- maintain its nutritive quality
- enhance its keeping quality
- make it attractive
- aid in its processing, packaging or storage.¹⁹

Why are additives such a concern to a consumer health?

While there may be beneficial advantages to many additives, it is important for a consumer to understand the basic understandings of some "additives", including the implications on human health. Additives are designed to enhance the final product of a food and can be either natural or synthetic.²⁰ To the average shopper assumptions are made that additives or preservatives are safe or the government would not allow them.²¹

Some of Health Canada's responsibilities include:

- Establishing policies and promoting the nutritional health and well-being of Canadians by collaboratively defining, and implementing nutrition policies and standards.
- Administering the provisions of the *Food and Drugs Act* that relate to public health, safety and nutrition.²²

As a society we tend to buy food that looks nice to the eye.²³ To enhance the product to make it more "attractive", supermarkets often add colours to their food, to mimic as if it

has just been produced.²⁴ Slight discolorations deter customers from buying, even though there is absolutely nothing wrong.²⁵

The implications of certain additives are potentially a very serious issue for consumers, especially in convenience foods and for parents with young children to understand the potential affects to a child's behaviour. A recent UK study suggests a link between children and the consumption of additives. Responses do vary significantly from different children, although different additives tend to affect children differently. While there are varying factors affecting a child's behaviour, parents can chose to avoid additives in their child's diet.²⁶

Food for Thought

The United States Department of Agriculture compiled a list of some of the most *heavily contaminated* produce items with pesticides; often thought of as *very-healthy purchases*: 10% of cucumbers were found to be contaminated with *dieldrin*, an insecticide banned over 20 years ago, but still persists in the soil.²⁷ Canadian shoppers purchase the same produce as it travels great distances to reach supermarket shelves; store shelves contain food from global markets, and increasingly, Canadian policies and regulations generally mirror US legislation.²⁸ It is important for customers to take the time to read and understand food labels.²⁹

Environmental and health impacts: packaging and transportation of food

The conventional food system is an industry that is built on packaging and presentation.³⁰ The distribution and marketing strategies of the food system play a major role in the freshness and overall quality.³¹ The driving force behind packaging and product legislation is environmental concern.³² Packaging is often where "Food Product Dating" can be found. Common phrases such as "sell by", or "best before" are voluntarily printed on various food products and are not uniform or universally accepted.³³ These dates should be seen more as *promises of good-faith regarding freshness* opposed to safety dates.³⁴

Current diversion rates for household packaging in Ontario are 44% or 465,000 tonnes annually.³⁵ This has a direct impact on the health of the community left with the burden of dealing with the waste of food packaging.

There appears to be an increasing number of initiatives to ban specific materials that may cause harm to both the environment and human health, including restrictions on certain types of food packaging.³⁶ Consumers and recycling regulations are the primary force behind the demand for increased environmentally-friendly packaging; one avenue being

explored is a strategy to replace plastics and foams with biodegradable materials. These materials are made from a variety of plants, but primarily corn.³⁷

Corn and Soy: North America's diet

Apart from becoming a growing technology in the packaging industry, corn along with soy play a major role in North Americans diets. Corn is believed to be the second most cultivated plant in history behind wheat.³⁸ The feed and food industries increasingly force farmers to comply with demands and produce desired products.³⁹ When we eat a particular kind of food, it has a particular kind of carbon "in our tissues, in our hair, in our fingernails, in the muscles", for North Americans, 69 percent of the carbon on average comes from corn.

The supermarket offers consumers corn in a wide range of products including ketchup, soda, and cookies; most of which is high fructose corn syrup. Similarly, soybean oil can be found in fruit syrup, and tortilla chips, a corn product.⁴⁰ High fructose corn syrup and soybean oil are found in almost all types of processed food.⁴¹ Corn and soy are often excellent healthy food choices on their own. However, a high percentage of calories are derived from soy and corn because of processed foods.⁴² Soybeans, usually in the form of oil, account for an astonishing 10 percent of total calories in North America.⁴³

It is important not to think of corn or soy as a whole food or as unhealthy, however corn is highly processed in many of the foods we find on the market shelves and has been linked to obesity and heart disease and the potential for type 2 diabetes.⁴⁴ The processing of corn and soy into high fructose corn syrup and soybean oil is a major contributor of the obesity problem in North America.

On average, corn yields have increased by three bushels per acre since 1995-1996; and corn yield could reach 175 bushels per acre by 2015/16. In terms of food security, the increases in yields is not about being used to feed the general population, corn is being marketed for new technologies, for example animal feed, ethanol, biodegradable materials.⁴⁵

Is it food or is it?

Foods otherwise known as pseudo foods

The growing number of *pseudo foods*, a term usually interchangeable with junk food and include chips, chocolate, frozen ice cream treats, fruit "punches", pop, pre-sweetened breakfast cereals. Food that is unprocessed, for example: potatoes, milk, eggs etc tend to have small profit margins and are usually sold at cost or below cost to get consumers into the stores. Meanwhile, highly processed foods especially those with high levels of sugars and fats are very profitable. Typically, these foods tend to be high in fat and/or sugar, calories, and low in nutrients like, proteins, minerals and vitamins.⁴⁶ But these kinds of foods are high in profit so when you look around the store, you'll see these highly processed foods prominently displayed. Take a look around, where do you see these high profits foods?

Nutrient comparison of pseudo foods beverage with real food beverage (12oz serving)

	Coca-cola	Pepsi	Orange Juice	Milk 1%
Calories	154	160	168	153
Sugar (g)	40	40	40	18
Vitamin A (IU)	0	0	291	750
Vitamin C (mg)	0	0	146	3
Calcium (mg)	0	0	33	450

Pre-sweetened breakfast cereals are another example for pseudo foods. But most are laden with sugars, the grains processed and filled with additives to enhance the flavour and colours, and they are not nutritious.

Can you see the sugars?

Grab a box of cereal, and read the label, what are the first few ingredients? Usually grain, corn, oats are on the top of the list, but keep reading and you'll probably find different types of sugars such dextrose, evaporated cane juice, fruit juice concentrate, high fructose corn syrup, honey, lactose, maple syrup, molasses, sucrose, fructose, and glucose.

It is hard to measure the consequences of eating highly processed foods, because this shift in our diets is relatively new and long term effects are just being felt now through the increasing rates of chronic diseases related to diet.

Adding nutrients

What do these food items have in common?

- Table salt
- White flour
- Cow's / goat's milk
- Margarine
- Infant formulas
- Breakfast cereals

These are some of the foods commonly fortified in Canada.⁴⁷

What does fortification mean? The addition of one or more essential nutrients to a food, whether or not the nutrient is normally found in the food, for the purpose of preventing or correcting a demonstrated deficiency of the nutrient(s) in the population or specific subgroups of the population.⁴⁸

The good stuff:

Originally, fortifying was created to overcome deficiencies in certain nutrients in the general population. In Canada, there was the so-called "goiter-belt" mainly around the Great Lakes. By 1949, under the Food and Drugs Act, iodine was added to table salt and now goiter, an enlarged thyroid condition, is not a major health concern.⁴⁹

The interesting stuff:

When fortification became technologically possible, the incentives to fortify included putting back some of the nutrients lost in the processing (example: milling of wheat to white flour, its low in nutritional value, now flour is enriched) the low costs to add minerals and nutrients and the mark up in prices in stores that consumers were willing to pay. As nutrient deficiencies declined, diet related chronic diseases became leading health concern.⁵⁰

Vitamins, anti-oxidants were seen as ways to delay or prevent various diseases like cancers, heart disease, diabetes, and arthritis to name a few. Food manufacturers started to target fortified foods to children as well as part of a push to prevent many chronic illnesses.⁵¹ But studies have produced mix results and certain food stuff, like omega 3's, are being touted as effective in preventing heart disease and cancer and improve eye and brain benefits but the studies are mixed and there are different kinds of omega 3's. There is ALA (found in flax) and DHA (found in fish). Studies in omega 3's found in flax seed has less conclusive evidence of its beneficial properties but are regularly found in "omega 3" labeling. If the label says "omega 3 enriched" and does not mention DHA plus EPA, it more then likely has AHA in it.⁵²

The push to make junk food healthier.

In Canada, confectionaries has grown to be one of the largest categories in food retail, in 1999, sales were at \$2 billion and growing at 5% a year.⁵³

The argument is that some of these "foods" like sugary cereals, fruit drinks are more like candy then actual food. In response, food manufacturers added vitamins to the certain foods targeted for children, such as cereals laden with sugar and certain sweet juice drinks, they have gone further by adding vitamins to gummi bears, and other snacks that have questionable nutritional value.

Other signs of sickness in our food system

E. coli contamination

The usual suspects for food borne illnesses were primarily meat, eggs, and seafood but with recent E.coli scares, spinach and mixed greens have been the carriers.⁵⁴ In 2006, Americans were told to stop eating fresh spinach until further notice. The reason? Strains of E.coli and Salmonella were found in spinach and making people sick and resulted in the death of five people.⁵⁵

In 2007, E. coli was found in mixed salad greens and Canadians were advised to throw out the Dole pre-packaged Heart's Delight mixed lettuce.⁵⁶ All kinds of vegetables and fruits grow near the ground; where they are susceptible to bacteria, infected livestock, and unsanitary water all these contribute to the presence of E coli in leafy greens.⁵⁷ Another main issues with leafy greens is that most are "ready to eat" and usually eaten raw. It is safer to buy heads of leafy greens, remove the outer layers that are bruised (this is potential spot for bacteria) and wash the leaves well.

The Scoop on Irradiation

Do you know what this symbol means? What does it look like?



This is the international symbol to indicate something has been irradiated.

The Scoop on Irradiation

How is food irradiated?

During the irradiation process, food is exposed to an ionizing energy source. Three different energy sources may be used: gamma rays, electron beams and x-rays. The length of time the food is exposed to the source and the energy level determine the dose of irradiation. The doses used for food irradiation do not result in the food becoming radioactive.⁵⁸

Health Canada defines irradiation as: food irradiation is a method of preserving food by using a type of radiation energy.

In 2002, Health Canada announced its decision to extend the number of foods allowed to be irradiated. The list includes the original foods: potatoes, onions, wheat or whole-wheat flour, or spices/dehydrated seasoning preparations and added:

- fresh, frozen, prepared and dried shrimp and prawns, fresh and frozen poultry, and fresh and frozen ground beef (to control pathogens, reduce microbial load and extend durable life)
- mangoes (to control insect infestation during storage and to extend durable life.)⁵⁹

The arguments for irradiation are:

- To prevent food poisoning: by reducing the level of harmful bacteria such as E.coli O157:H7, Salmonella and Campylobacter, and parasites which cause food borne diseases.
- To prevent spoilage: by reducing the microbial load on foods, meaning it destroys bacteria, moulds and yeast which cause food to spoil, and controls insect and parasite infestation.
- To increase shelf life: by slowing the ripening or sprouting in fresh fruits and vegetables, thereby allowing for longer shelf life.⁶⁰

Any non-packaged foods must have carry a statement "treated with radiation", "treated by irradiation" or "irradiated" symbol at the point of sale, any pre-packaged foods must have an irradiated symbol on its main label.⁶¹

Once food is irradiated, its shelf life is extended; do we really want food in our stores / homes for unnatural lengths of time?

Opponents of irradiation bring up startling issues:

- no long term studies have been done on humans who eat irradiated foods and the workers who oversee the process
- the quality of food decreases for example, when irradiated, potatoes lose up to a 1/3 of its vitamin C.⁶²
- others have argues that exposing humans to irradiated foods will increase the risks of cancers because irradiation causes chemical changes such as an increase in cancer causing benzene.
- but more importantly, by irradiating our food, we are essentially "cleaning" it of bacteria, viruses, insects, etc but we are not addressing the issues of why the food is contaminated in the first place. Irradiation cannot replace safe food handling practises. For example, grain fed cattle produce an acidic environment that increases the presence of E.coli, if cattle were grass fed, E.coli rates would presumable decrease. But E.coli is the main selling point of irradiation.⁶³

Alternatives

Eat whole less processed foods

Cook from scratch!

Get involved in food production! Grow your own food, in containers, on a rooftop, on a balcony

Eat local! Check out farmers markets, farm store fronts, Eat Local initiatives in your area.

Eat organic when possible. Buy conventional from the list of least contaminated food.

Food co-ops and buying clubs are alternatives to supermarket shopping. Check out the Ontario Natural Food Coop

http://www.onfc.ca/main_menu/index.html

Karma Food Coop

<http://www.karmacoop.org/about/index.html>

Check out "Health Food Retail" in the yellow pages, ask your local store about their policies on sourcing locally, ethically, organically, just ask questions and let the business owners know what your concerns are!

Check out local "Good Food Box" initiatives that offer fresh fruit and veggies at competitive prices. Generally, non profit organizations buy food in bulk and there is usually choice in size of boxes to accommodate different households.

Look at community sustainable agriculture initiatives in your area. Members buy a share and will get a variety of produce from the farmer throughout the growing season. The idea is that the members support farmers in good and bad times. The farmers are able to focus on production and not on things like marketing, etc.

Look to see if there are irradiation labels are present and ask your grocer if the potatoes, onions, meats, etc have been irradiated. Voice your concerns.

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