

**Making Consumers Sovereign:  
How to change food information systems so  
food shoppers are the informed consumers  
governments and businesses say  
they should be**

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This is a work in progress. The Toronto Food Policy Council is interested in discussing the issues and strategies presented here as part of its on-going efforts to improve the food and agriculture system in Canada, and to help create food security. Please forward any comments, and requests for additional copies, to the Toronto Food Policy Council, 277 Victoria St., Suite 203, Toronto, ON M5B 1W2. Thanks to Deborah Moffett for research and analysis.

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## **Executive Summary**

This paper is about making it easier for consumers, governments and businesses to do what they all say they want - improve the public's health by encouraging healthier purchasing and eating.

Both health and sustainability are stated public policy objectives, but we believe that our food information rules and practices stand in the way of achieving them. Lacking a stated consensus on the purposes of public information about food, the information provided is left largely to the marketers of product. The problem is that no one has responsibility for determining the overall coherence of consumer food messages. Individual firms provide information that shows their products to best advantage. As a result, consumers get information that is incomplete, and which may contradict the information provided by another firm or government agency. Individual consumers do not have the resources to determine with any ease the accuracy or completeness of any firm's messages, particularly when faced with the size of food industry advertising budgets.

Government rules confound this problem because there is also little coherence between the parts and levels of government that have responsibility for advertising rules, labelling and grading systems. The healthy eating messages of health departments are often competing with contradictory messages permitted by other arms of government. Investments in programs that successfully promote environmental stewardship in agriculture are undercut in the market because consumers can not identify the foods and support them with their dollars.

Traditionally, regulators have provided information on a limited range of topics - price, nutrition and food safety. But given the factors that determine how people eat (Table 1), all this must be reconsidered. Culture, values and ethnicity are very strong determinants of food choices. Socio-economic factors, such as income, employment, food costs, and the structure of the food industry all play a role in determining what people eat. Most of these factors are not overtly measurably in traditional scientific terms, and this calls into question the use of traditional scientific frameworks for determining what information will be provided to consumers. Only recently have some health professionals turned their attention to all these factors and begun to design interventions that take them into account.

Tackling this complexity with new information tools is obviously a challenge. Here's what we propose:

### ***Efficiency (first stage)***

1. Make nutrition labels mandatory on all foods (with the exception of fresh fruits and vegetables). Labels should contain information on all nutrients for which the federal government makes health recommendations. The information should be expressed in ways that are meaningful to the average consumer and based on consistent and typical serving sizes.

2. Rewrite certain Food And Drugs Act Regulations so that excess fat production and distribution is discouraged, and consistent labelling of fat content is encouraged:
  - a) Change all prepared meat food definitions so that the product can contain no more than 25% fat by weight.
  - b) Change dairy product food definitions so that maximum fat contents are specified for each type of cheese.
  - c) Change all product labelling systems so that the label contains both the grams of fat and the percentage of calories consumed as fat (consistent with Canada's Healthy Eating Guidelines).
  - d) Require labelling of all fatty ingredients.
  - e) Require labelling of trans-fatty acids.
  - f) Require labelling of essential fatty acids.
3. Identify clearly all products of controversial technologies. As examples, a private member's bill before the federal House of Commons would amend the Consumer Packaging and Labelling Act preventing sale of a prepackaged food product from an animal to which a prescribed recombinant hormone (genetically engineered) had been administered unless so labelled. Under the Food and Drugs Act, rules regarding food irradiation labelling also provide an indication of what is possible. In this case, wholly irradiated foods (potatoes, onions, wheat, flour, whole wheat flour, whole or ground spices and dehydrated seasoning preparations) must be labelled with both the international irradiation symbol and a written statement such as "irradiated" or "treated with irradiation"<sup>1</sup>.
4. Use more shelf talkers/ad pads in supermarkets as health promotion vehicles. Ad pads can work well when used to remind consumers of a campaign that they would already be familiar with through another medium (e.g., television, direct mail or outdoor advertising), when the pads are placed next to the product of the campaign and when the message contained on the ad pad (and its "look") is consistent with that of the familiar campaign.
5. Implement on a national level legislation like the BC Food Choice and Disclosure Act and Quebec's Bill 53, "An Act respecting reserved designations ..." These acts permit the identification of foods according to the farming practices used to grow and raise them (e.g., organic, integrated pest management, no antibiotics). The legislation requires that industry protocols be developed to ensure quality and consistency, and that the products be certified by an accredited certification agency.
6. Remove ingredient listing exemptions and add the functions that non-nutritive ingredients play in the food product (e.g., preservative, emulsifier, etc.). Make QUID mandatory for all prepackaged products, with percentages of ingredients placed beside the name for any

ingredient comprising 5% or more of the product. In addition, when a product has the name of an ingredient in its title or claims to be made by a specific ingredient, e.g.,

“whole wheat bread”, or “made with whole wheat”, the percentage of that ingredient should appear close to the main name on the package.

7. Make freshness dating mandatory on all foods. In the case of unpackaged foods, freshness dates must be provided at retail shelf space.
8. Revise country of origin rules to remove exceptions, include more foods, and make the declarations more easily recognizable.

***Substitution (second stage)***

1. The Science Council of Canada proposed that advertising of nutritionally-questionable products be curtailed by government intervention<sup>2</sup>. This could be one component of an integrated strategy to promote an optimal diet and eliminate or restrict any advertising that constitutes a barrier to achieving this goal. One possible requirement might be that food products that are clearly undesirable or peripheral to an optimal diet be labelled as such.
2. Tobacco reduction proponents are now arguing for restrictions on tobacco advertising. They include preventing advertising near schools and the elimination of lifestyle ads. Similar strategies could be used for restricting access to and advertising of high fat and highly processed foods. Surveys in Minnesota have found higher levels of consumer willingness to support these kinds of restrictions than was anticipated<sup>3</sup>.
3. Require that Canada’s Food Guide to Healthy Eating be placed on all packaging labels with sufficient size to accommodate it. Weston’s Wonder Bread is one of the first Canadian products with such a label.
4. Create a legal framework and supports for local labelling schemes.

***Redesign***

1. Implement a new system of grading, that accounts for the nutritional value of the product. See Table 3 for an example.
2. Create new systems for adding messages to labels that tell consumers how a food product complies with the government's healthy eating guidelines (e.g., “Eating this product several times a week is consistent with Canada's Guidelines for Healthy Eating” or something to that effect); this might also be achieved with a colour coding system (e.g., different colours for high, medium and low compliance). Such attributable messages have existed on tobacco products for years.

Similarly, Bill C-222, currently before the House of Commons, proposes to amend Food and Drug Act regulations with a warning label regarding health problems associated with alcohol consumption.

3. Place full size images of Canada's Food Guide to Healthy Eating servings in the supermarket showing how much one should consume of a product on a daily basis
4. Implement comprehensive product labelling that includes information on environmental and social justice impacts of production, processing and distribution. An example of such a label is provided in Table 4. Although not easy to create, the federal government's former "Environmentally Friendly Products" program provided a base of experience, in terms of both data and process. Also, several non-profit organizations promoting ethical investment and purchasing have developed systems for rating products<sup>4</sup>. Several other jurisdictions have started this process on a variety of consumer products, using simplified labelling schemes (e.g., Germany and their Blue Angel scheme)<sup>5</sup>.

## **1.0 Introduction**

"It is clear that consumers are interested in ways of improving their health, but it is also increasingly clear that the information must be packaged in ways that fit in with busy schedules, competing interests, and a reluctance to make drastic lifestyle changes"<sup>6</sup>

This paper is about making it easier for consumers, governments and businesses to do what they all say they want - improve the public's health and the environment by encouraging healthier and more ecological purchasing and eating. Since 1992, the Toronto Food Policy Council has been working to change the way consumers are informed about food. We:

- C held a public forum on the topic, attended by 200 people, in Toronto in November of 1993;
- C organized a workshop for professionals, businesses and regulators on the topic, scheduled for November of 1993 that had to be cancelled at the last minute because government and industry representatives refused to participate;
- C carried out an informal survey of businesses and governments that produced mixed opinions; health professionals were generally in favour of our proposals, agricultural professionals were generally not, businesses did not respond;
- C included the issue in two of our discussion papers on the transition to a health promoting and sustainable food system.

Our attempts to engage government and businesses in discussions have been stymied by their apparent

fear to start public debate about the merits of the current system. Many business associations have their own agendas for change, agendas that would not be consistent, nor as fundamentally informative, as ours. We do appear, however, to have many allies in the health domain because they recognize how the consumer information system is impeding their ability to change eating patterns.

Both health and sustainability are stated public policy objectives, but we believe that our food information rules and practices stand in the way of achieving them. Lacking a stated consensus on the purposes of public information about food, the information that is provided is left largely to the marketers of product. The paramount problem is that no one has responsibility for determining the overall coherence of consumer food messages. Individual firms provide information that shows their products to best advantage<sup>7</sup>. As a result, consumers get information that is incomplete, and which may contradict the information provided by another firm or government agency. Individual consumers do not have the resources to determine with any ease the accuracy or completeness of any firm's messages, particularly when faced with the size of food industry advertising budgets.

Government rules confound this problem because there is also little coherence between the parts and levels of government that have responsibility for advertising rules, labelling and grading systems. The healthy eating messages of health departments are often competing with contradictory messages permitted by the regulatory framework of other arms of government. Investments in programs that successfully promote environmental stewardship in agriculture are undercut in the market because consumers can not support those efforts with their dollars.

It need not be so. Other countries have recognized this problem and taken actions to solve it. In Norway in the 1970s, food production and nutrition information was provided to motivate better dietary habits and to develop skills for making more informed food choices. The government recognized that “present marketing practices are in relatively large disaccord with the nutritional objectives . . . The factors which today regulate sales are only to a small degree dictated by nutritional considerations.”<sup>8</sup>

These words also describe both Canada's current situation and foreshadow the new directions we must take if government and industry are serious about having a healthy population.

## **2.0 Theoretical considerations**

### **2.1 What is the role of information in creating a food market that functions?**

According to market theory, consumers are presumed to be acting rationally when they make purchases. Acting rationally means acting in their own self-interest with full awareness of how that self-interest is achieved. In order to act rationally, they need all the relevant information. Having all the relevant information allows the market to send clear signals to buyers and sellers.



When considering consumer information needs, regulators have focussed primarily on price, quality and convenience. These parameters have been fairly narrowly defined. For example, food quality has been defined primarily by the safety of the product and, particularly with fresh foods, its cosmetic appearance. The nutritional value of the product, and how its nutritional profile might have been affected by agricultural, storage and distribution practices have not been seen as relevant to consumers<sup>9</sup>. Convenience has been defined primarily by store location and car accessibility, product availability and ease of product preparation. The convenience requirements of those who do not meet the standard shopper profile, particularly urban low-income citizens, are not given much consideration. The evidence increasingly suggests that consumers have concerns beyond price, quality and convenience, which can include the social, environmental and health impacts of food production and distribution<sup>10</sup>.

The market place, however, rarely provides broader information on price, quality, and convenience, and on the social, environmental and health impacts of food production, processing and distribution. Market theory tells us that this information void helps create an economically dysfunctional food marketplace in which partial and contradictory signals are sent to both producers and consumers. In turn, these distorted signals mean that resources in the food system are improperly allocated, particularly, in our view, those resources that help to ensure health, environmental sustainability and equitable access.

## **2.2 The theory of regulation**

The traditional role of government is to shape, monitor and correct deficiencies in the market place. Regulation is one of several tools used by government to carry out this role. In particular, regulation serves to influence the actions of market players, define products and processes, determine what is allowed in the market under what conditions, and provide penalties for non-compliance.

Food system regulation has focussed on creating market and price stability, reasonable returns on capital, stable farm incomes, food safety and fraud prevention<sup>11</sup>. Instruments such as price guarantees; input, business and export subsidies; deficiency payments; cheap loans; disaster relief; and rules for processing and labelling have been used to meet these objectives.

Traditionally, the details of state regulation are determined by experts in science and economics. However, this approach to regulation is increasingly recognized as deficient. Scientists are realizing that to understand needs and behaviours requires a collaborative, participatory research approach, involving the people affected by the results<sup>12</sup>. Traditional categorization of consumer behaviour and the mechanisms for providing information may be inappropriate.

On a related matter, the experts assume that they are the only ones with the capacity to understand the issues. Although many of these matters are complex and confusing, policy makers should not be assuming a priori that consumers are ignorant or uninterested.

However, policy makers have failed to design systems that reflect both where consumers are (i.e., what

information they feel they need), and how fully informed consumers can help us achieve public policy objectives (e.g., improved health, sustainability).

As well, this approach to regulation assumes that businesses have no broader social obligations, aside from those related to food safety and product promotion regulations. Yet historically, those obligations arose from public demand for regulation. Health and environmental concerns are the contemporary equivalent.

### **3.0 A brief orientation of the existing regulatory system<sup>13</sup>**

Policy and regulations are divided amongst different levels of government, and different units within government departments. At the federal level, the Canadian Food Inspection Agency (CFIA) is responsible at all levels of trade for administering “food labelling policies related to misrepresentation and fraud in respect to food labelling, packaging and advertising (FDA), and the general agrifood and fish labelling provisions respecting grade, quality and composition (CAPA, MIA, and FIA)”<sup>14</sup>. It is also responsible for enforcement. Health Canada is responsible for ensuring the safety of the Canadian food supply<sup>15</sup>, and accordingly determines food labelling requirements regarding health and nutrition matters. Industry Canada has responsibility for the Consumer Packaging and Labelling Act, the Trade-marks Act and the Competition Act.

The most important pieces of federal legislation with regard to these responsibilities are the Food and Drugs Act and Regulations (FDA), and the Consumer Packaging and Labelling Act and Regulations (CPLA). Other legislation, including the Canadian Agricultural Products Act (CAPA)<sup>16</sup>, the Meat Inspection Act (MIA), the Fish Inspection Act (FIA), are also relevant in some cases. In addition, the federal Broadcasting Act and Regulations have an influence over food commercial messages. This act is the responsibility of the Canadian Radio and Television Commission, with regard to the application of regulations and policy rulings. Other pieces of legislation with limited, but sometimes important, bearing on food include the Competition Act and the Trade-marks Act, administered by Industry Canada.

The Ontario government is also involved in grading, meat inspection, nutrition and food safety matters. Municipalities in Ontario have some responsibility for implementing provincial legislation regarding nutrition and food safety programs (including restaurant inspection), as they relate to public health.

The main emphasis of current legislation regarding consumer information is fraud and deception prevention. For example:

“The Food and Drugs Act prohibits the labelling, packaging, treating, processing, selling or advertising of any food (at all levels of trade) in a manner that would mislead or deceive consumers as to the character, value, quantity, composition, merit or safety of the product. As well, it prohibits health claims that might suggest that a food is a treatment, preventative or cure for specified diseases or health conditions.”<sup>17</sup>

The Consumer Packaging and Labelling Act (and Regulations) “provides for a uniform method of labelling and packaging of consumer goods (products sold at retail). It prevents fraud and deception by providing for factual label information from which consumers can make an informed choice.”<sup>18</sup>.

The Minister of Health has stated that such approaches are outdated and in need of change<sup>19</sup>. We agree. The problems of this limited approach to providing consumer information are described in more detail below.

#### **4.0 Some confusions and contradictions of the current system**

Consumers regularly report the following confusion:

- C Difficulty understanding the details of nutrition labels, include the significance of the fat content and what a serving size is in reality. Many businesses now believe that consumers are fatigued about nutrition information because of the confusion<sup>20</sup>. US consumers are increasingly wary of expert advice on nutrition and food due to the degree on conflicting information<sup>21</sup>
- C Following the latest food fads - the most recent piece of research evidence reported in the media (e.g., oat bran, no cholesterol products) or the latest popular diet. Policy makers, business people and scientists blame this problem on the media and on each other. Our view is that all the players bear some responsibility and that this phenomenon results from problems outlined above. In the absence of full information rules and practices, firms are rewarded for integrating incomplete, but favourable, research results into their promotion.
- C Confusion about places of origin. For example, consumers often believe they are buying Canadian products and supporting Canadian producers and processors because the label states Canada #1. Of course, this is not necessarily so, and they may not look for, or find, the words that identify the product's true country of origin<sup>22</sup>. (Example: fruit cocktail containing pineapple labelled “Product of Canada.”)
- C Bewildering profusion of brand names and claims. Consumers believe that there are many brands and types of products to choose from, when, in many cases, the products are quite similar, or many of the brands are made by one manufacturer.
- C Misconceptions about product grade indicating nutritional value. Labels with Grade A or #1 markings make many believe that it is the top quality choice from a nutritional perspective, whereas grading criteria focus more on cosmetic factors.

Most disturbing is how the current approach to information compromises efforts to encourage healthy eating. Diet is a significant risk factor in 60% of diseases<sup>23</sup>. Many chronic diseases and conditions, including cardiovascular disease, hypertension and stress, cancer, diabetes, low birth weight infants (and its associated problems), anaemia, and some infections in children now pose major public health

challenges. All of these chronic diseases and conditions are related to nutrition. They affect both the food-rich (those with sufficient income to acquire whatever foods they desire) and the food-poor (or those experiencing food insecurity). Very significant percentages of the Canadian population are at risk of these diseases because they do not eat in a manner optimal for health.

We all pay, through publicly-funded health insurance, for the costs of individuals' poor food choices or hunger. The food system, through which most people acquire food, carries no responsibility for the consequences of consumption of its products. Food companies bear no

responsibility for the consequences of misinforming consumers about the health-related characteristics of their products. The efforts of ministries of health to promote healthy eating are ultimately compromised by agribusiness expenditures encouraging unhealthy eating.

The challenge is to redesign the consumer information systems so that they help governments achieve their national nutrition and health objectives for the population.

## **5.0 What do consumers want?**

Historically, attention has focussed on perceived consumer concerns about food price, quality (usually defined largely by cosmetic appearance), convenience and safety. Now there is increasing evidence that consumer interests are more diverse and complex, challenging the traditional way in which companies have both informed consumers and merchandised food products. As well, firms know that consumers are confused about the information currently provided<sup>24</sup>.

For years, the food industry has publicly explained its behaviour in the market place by claiming it was responding to what consumers wanted. Mass produced and inexpensive food, convenience, packaging and extensive product variety have been explained as responses to market signals. Surveys of consumer attitudes have reinforced this view<sup>25</sup>.

But the consumer market place is less homogeneous than earlier times. Consumers have been rebelling against mass produced foods (see discussion below and in Section 8.6). Smart processors and retailers have diversified their product offerings, in the hope of capturing these new market segments. To do so, they have changed promotional strategies, and have invested in sophisticated market survey instruments. Some consumers, once offered new kinds of choices, have responded and changed their purchasing patterns. All these developments confirm the interactive and dynamic interconnections between product availability, consumer information<sup>26</sup> and desires. It is increasingly clear that consumer demand is a product of individual and collective wants and needs, access and availability, and the type and manner of information provided.

What are the trends? A more sophisticated understanding of nutrition has begun to emerge. National Institute of Nutrition (NIN)<sup>27</sup> and Food and Consumer Products Manufacturers of Canada (FCPMC) tracking reveals a slow, but steady increase in the number of people who believe that nutrition is

important when choosing food to eat. In the NIN tracking, concerns about fat and cholesterol have risen at the highest rates, although concerns about fat intake have fallen somewhat between 1994 and 1997, particularly amongst men<sup>28</sup>. FCPMC studies, have concluded that over three quarters of consumers believe nutrition to be an important factor in their purchasing decisions. These surveys have also found that consumers report taking actions to deal with these concerns: buying lower fat products, using less fat in food preparation, changing oils, eating more chicken, fruits and vegetables<sup>29</sup>. Their major sources of nutrition information are product labels (75% in 1994, up from 61% in 1989), radio/tv programs, magazines and books<sup>30</sup>. A 1994 GPMC survey concluded that 80% of today's consumers read ingredient labels on packaged foods, up from an estimated 2% in 1983<sup>31</sup>. There remains, however, a significant degree of dissatisfaction about the nutrition information provided, related largely to legibility, format and nutrition terms. Satisfaction has, in fact, dropped since 1991<sup>32</sup>.

Price, is of course, a continuing major factor (80% of consumers identify price as a major concern<sup>33</sup>), but there are signs it is not as overriding a consideration as once thought. Amongst middle and upper income earners, consumers have been paying fairly high prices for certain products they believe to be in some way better. Premium label products, imported gourmet items, and fresher foods (including freshly squeezed juices) are all examples (see also discussion about environmental choices below). Amongst low-income shoppers, a group historically thought to have few concerns beyond price, there is evidence of a dynamic relationship between price, ease of access to the product, quality (defined more in terms of “keeping” time than those quality factors identified by middle and upper income earners), and social factors such as support for local farmers<sup>34</sup>. Low-income customers have surprised community organizers with their interest in paying a bit more for ease of access and local product.

Consumers have also greater environmental concerns. The NIN surveys show that concerns about pesticide contaminants in foods were second or third in significance behind fat and cholesterol, and food poisoning<sup>35</sup>. FCPMC studies conclude that consumers are somewhat or completely in agreement with the statement “I am willing to pay more for environmentally friendly products”<sup>36</sup>. A host of other surveys in the North show that consumers are concerned about pesticides<sup>37</sup>. Many consumers are also willing to pay more for produce with guaranteed lower pesticide residues, and are willing to accept product with slight cosmetic damage if assured that pesticide residues are lower or lower levels have been used<sup>38</sup>. Pesticide proponents, however, will argue that consumer concern does not necessarily translate into modified purchasing patterns. This is partly true, but one of the most significant barriers to modified purchase is the absence of food information systems that alert consumers to the type of production system used to produce the food. Only certified organic, and in some cases transition to organic, residue-free, and low-spray products, have any recognition in the market place. Studies examining consumer behaviour in the supermarket have found that when provided with fuller information on production histories, consumers will choose more frequently food from reduced-pesticide production systems<sup>39</sup>.

The expansion of the organic food sector is also an indication of consumer concerns about pesticides. Surveys indicate that the desire to reduce exposure to pesticides is a significant motivating force for

consumers<sup>40</sup>. As a result, different nations are experiencing significant rates of growth of organic foods. For 8 years in a row the US organic industry has experienced growth rates over 20%<sup>41</sup>. Denmark anticipates that organic will occupy 15-20% of market share by the year 2000, with 7% of agricultural land in organic production<sup>42</sup>. The Bavarian State government in Germany plans to have 25% of their agriculture converted to organic production by the year 2000<sup>43</sup>. Within the European Community as a whole, organic foods occupy about 0.5% of the food market, and they are projected to reach 2.5% by the year 2000. The number of hectares under organic cultivation quadrupled between 1987 and 1993<sup>44</sup>. Iceland plans to have all 5000 of its farmers converting to organic production by the year 2000<sup>45</sup>. Cuba has set similar targets<sup>46</sup>.

Canadian consumers have been slower to embrace organic foods, but demand has grown consistently over the past decade, now estimated at approximately 1% of the Canadian retail food market.

## **6.0 What does business want?<sup>47</sup>**

In our discussions with food companies, the following themes were identified:

### **1. *Businesses believe that the interests of consumers come first***

Marketers stated that they had the interests of consumers at heart. It seems though that most marketers are caught up trying to achieve sales and brand share targets, keeping within budget and satisfying the demands of more senior management. Most marketers have not spent many hours critically thinking about what it really means to satisfy consumers. In fact, many are not familiar with issues that preoccupy some consumers, including biotechnology, gene manipulation, antibiotic and hormone usage, pesticides, and farm worker rights.

It seems, then, that there exists some gap between intention and practice. Also, it appears that firms are not really willing to pay for consumer education. Particularly with regard to nutritional and environmental concerns, they hope that the media and government will do most of the work for them.

### **2. *Marketers want to reduce the hassles around packaging/labeling regulation compliance so that they have the ability to think about meeting real consumer needs regarding product information***

Marketers spend so much of their energies trying to ensure that packaging meets all the government regulations (and guidelines) that it becomes difficult for them to even think about how to work within the “legal” requirements and give consumers what would be most helpful to them.

Individuals employed in manufacturing or processing firms, with responsibility for packaging/labelling, appear to know little about how their own product ingredients have been handled, what chemicals are used in production/growing of ingredients, and the side effects of any food additives used. The assumption is usually that someone else is taking care of that aspect of product safety. Most marketers

work nights and many weekends, and would normally be far too busy to pursue such questions even if they had the inclination to do so.

Ultimately, though, it is the marketers who determine which products consumers have to choose from, and, within existing guidelines, what information about them is conveyed in packaging and labeling. Marketers have not identified sufficient consumer demand for more information about product ingredients for them to consider providing it. If there is no obvious advantage (as measured through potential increased brand sales and brand market share) to providing the information, then there is no incentive to do something that could ultimately mean increased product costs and lower profits. The degree of incentive changes if a competitor changes tactics and provides different information to consumers. Then a marketer may react to keep the playing field level.

A number of marketers spoke to the confusion that consumers experience about fat, cholesterol, and fatty acids. Many marketers would be supportive of attempts to effectively educate consumers. In saying this, most were referring to nutrition education as they had little knowledge about some of the other food issues which might affect consumer decisions.

In most cases, processors provide “healthier” options of some of the more controversial processed foods, so that they can capture a broader range of consumer dollars. Manufacturers would be supportive of a campaign that highlights healthier product options in any given category, but not necessarily one that suggests eliminating a category altogether. Marketers believe there is consumer fatigue around healthy eating and environmental concerns. Price, taste and convenience are perceived to come well ahead of health and environment as factors influencing consumer product choices.

### **3. *Food safety is a prerequisite for all products***

All marketers within larger corporations are given statistics about consumer complaints. They will generally know if there is a problem with a product line that has resulted from processing, handling or formulation, and will ensure action has been taken to rectify the situation. Marketers will always be told about more serious food safety concerns which might involve a recall.

Yet when it comes right down to it, it appears that food safety is evaluated in limited terms. The individuals who develop the new products, work with packaging and advertising agencies, and generally determine what kinds of food items are available to consumers, generally do not question ingredients on an item by item basis, except on a quality and price basis, unless something is wrong. The ongoing concern of marketers is more in the perceived quality/value (taste, texture as judged by the consumer) of the fully processed food item and in its product costs. If the new or existing product is not meeting consumer needs (based on sales or consumer research), or is not meeting product cost expectations, then individual ingredients would be further examined.

Once a product prototype has been approved by the marketing department and senior management, and product standards set, responsibility for product ingredients is generally left to purchasing and plant inspection individuals. Food ingredients are generally procured by a purchasing department or by a

procurement officer at plant level. Marketers assume that internal food safety experts will ensure that food ingredients have been handled well, and that the product will be produced in compliance with the internally approved standards.

Internal guidelines are generally more stringent than government regulations because a food safety crisis (e.g., a product recall, a lawsuit initiated or negative media attention) could be devastating to a brand or a firm. A product scare that would fall into this category would be trace amounts of egg or nut oils in a product because of improper handling of ingredients or cleaning of plant equipment. The amount of the suspect ingredient could be minute enough that government standards would still be met. The trace ingredient might not need legally to be declared on the package, yet it could still result in an acute allergic reaction in a consumer who was highly susceptible. This type of non-intentional accident is the marketer's nightmare, and in most food processing firms, everything possible is done (with supporting policy) to avoid it.

A typical marketer view is that "I always assumed that any food product ingredient we manufacture has been proven to be safe or we wouldn't be able to buy it in Canada".

#### **4. *They want a level playing field***

A common thread is that marketers seem to want to market their products without a lot of interference from government or government agencies. They would like their decisions about what information to provide to be driven purely by what the consumer wants. However, there is also an expressed desire for a level playing field, where all competitors are on equal footing with regards to what claims can be made (e.g., low fat, no fat), and how ingredients should be treated on the packaging. It is unclear how marketers feel the level playing field would evolve without some kind of government regulatory process. But the overall message is that they want to have any consumer information rules or guidelines made clear and easy (e.g., no lengthy reviews) to act on.

The level playing field request extends to products (and advertising) which cross the Canada /U.S. border. U.S. packaging is thought to be much more consumer friendly. A number of marketers expressed desire for U.S. packaging regulations with Canadian ingredient lists.

Most marketers feel that the governmental agents interested in providing advice regarding labeling/packaging issues are tied up in debates about highly ridiculous issues - for instance font size and the height of lines between items on the nutritional panel, rather than the important issues.

Marketers want policy from government that explains exactly what the regulatory bodies want, so they can act without problems - "we want consistency". They want to know that their competitors will be held to the same guidelines, and that the guidelines will then be enforced equally. For instance, there was concern that sympathetic retailers in B.C. would carry American products, even though they were in violation of Canadian packaging regulations. The concern was that there did not seem to be adequate enforcement to maintain the level playing field.



The perception by industry is that the government regulatory bodies have shifted their focus from protecting consumers to protecting their own self-interests, jobs, and pet projects.

Most marketers do not want another set of voluntary guidelines (from any consumer lobby group) for packaging or advertising. Marketers are already tied up in knots dealing with existing regulations and guidelines.

So a paradox emerges. Business appears to want informed consumers, but is not able and sufficiently informed to provide them information. Marketers want to address consumer needs better than their competition. What they need to act are informed consumers demanding *healthy* food. But in the absence of such information, consumers may not be able to articulate what they want. In many cases, not enough consumers are vocalizing concerns about food safety or health issues in a manner that resonates with food marketers. Hence marketers have not reacted in any

significant way with new products or product modifications. All in all, **vocalized** consumer needs/demands that are actionable<sup>48</sup> drive much of what marketers do regarding the products they market.

Ironically, an education program designed to inform food industry marketers about food issues might be extremely effective when combined with a campaign to inform consumers. It is surprising just how uninformed many key players in the food industry are. There seems to be interest now in understanding the issues better.

## **7.0 A new framework for consumer information systems**

### **7.1 Consumer right to know, consumer empowerment and sound science**

The United Nations General Assembly Guidelines for Consumer Protection urges provision of “adequate information to enable [consumers] to make informed choices according to individual wishes and needs”<sup>49</sup>. Unfortunately, it appears that the lead role for implementing this provision internationally with food has fallen to the Codex Alimentarius Committee on Food Labelling<sup>50</sup>.

Codex claims to follow principles and evidence of sound science in making labelling decisions. Its four statements<sup>51</sup> on the subject are:

1. The food standards, guidelines and other recommendations of Codex Alimentarius shall be based on the principle of sound science, analysis and evidence, involving a thorough review of all relevant information, in order that the standards assure the quality and safety of the food supply.
2. When elaborating and deciding upon food standards Codex Alimentarius will have regard, where appropriate, to other legitimate factors relevant for the health protection of consumers

and for the promotion of fair trade practices in food trade.

3. In this regard it is noted that food labelling plays an important role in furthering both of these objectives.
4. When the situation arises that members of Codex agree on the necessary level of protection of public health but hold differing views about other considerations, members may abstain from acceptance of the relevant standard without necessarily preventing the decision by Codex.

Sound science is narrowly defined by Codex. It represents those scientific opinions for which a broad consensus has developed amongst the dominant institutions of food science and nutrition. It is, consequently, a conservative and reactive scientific approach. No action is taken unless the dominant scientific community feels overwhelmingly that the weight of evidence favours a labelling intervention.

Statement #2, however, appears to acknowledge that sound science is not the only consideration when addressing food labelling. Its interpretation seems quite contentious. Issues like halal foods and biotechnology pose problems for the committee. Both obviously contain legitimate factors beyond sound science. Both deal with the process by which food is grown, raised, distributed and processed, not just the nature of the final product. The Codex committee has been developing labelling guidelines on these, yet attempts to limit debate to matters of sound science on other issues. Food labelling specialists prefer to narrow the labelling debate and argue that any requirements beyond traditional use of labels are legitimate, but that other forms of public education should be employed. The notion of consumer right to know is viewed by many within Codex as part of that other approach to consumer education.

What policy makers ignore in this debate is that a consumer right-to-know framework is rooted in sound science - emerging health promotion theory. Sometimes referred to as the ecological perspective of health promotion, this young field is a product of converging thought in public health, and the social and behavioural sciences. In this approach, health is a product of the interaction between an individual and their physical, social, cultural, community and family environment. For health to be promoted, interventions must also promote economic and social conditions that lend themselves to healthy living, including life skills, appropriate information, and the provision of, and access to, healthful goods and services<sup>52</sup>. These structural changes are designed to remove impediments that confuse and make more difficult healthy behaviours.

In a market context, consumer right to know is about both providing people with appropriate information and allowing them to make choices in a way that ultimately changes the way goods and services are provided. In the case of food, it means providing information in an accessible way that allows people to more readily make health promoting decisions. It is also clear that the food / health nexus is broader than just nutrition and food safety. In the context of health promotion, food information related to personal values and beliefs, cultural norms and community relations may all be relevant. Knowledge of food origin, how it is produced, the technologies involved, the impacts of food production, processing and distribution on rural communities and the environment may all be important

to the food-health relationship. We believe that full information empowers consumers, by providing opportunities to express “informed consent” in their purchasing patterns<sup>53</sup>.

Ultimately, then, the issue is which and whose sound science will be deemed legitimate for developing a food information system. In the dominant view, restricting the system to information based on traditional scientific frameworks sustains the status quo, and allows economic issues to predominate over health ones. In our view, since our understanding of the role of food in health promotion is shifting from traditional views of food safety and nutrition, it is sensible to root consumer information systems in a scientific approach that reflects this new thinking.

## **7.2 Health promotion, information, social marketing and media advocacy**

Within a health promotion framework, provision of information is a key strategy to increase healthy and decrease risky behaviour. But the information delivery system within this framework is rooted much more deeply in an analysis of the forces that cause people to pursue unhealthy behaviour, rather than just assuming that choices to be healthy are determined solely by the individual.

Traditional information systems, unfortunately, are largely rooted in the individual responsibility model. They focus on providing the “best information to the largest possible number of people in an appealing package. A social-political perspective, on the other hand, links health promotion to social change and public policy development. The focus is on using the media to address conditions predisposing to disease rather than disease conditions”<sup>54</sup>. Such an approach is overtly challenging to the dominant media systems which generally are supportive of the status quo. As well, many media tend to emphasize individual behaviour, activity and disease, as part of their focus on “personalizing” the story for the reader/viewer. This is usually provided at the expense of the social, economic and political factors that might contribute to disease development in groups of people, topics that are more difficult to present briefly.

Examining systemic issues is sensible given the factors that determine food choices (Table 1). Culture and ethnicity are very strong determinants. Socio-economic factors, such as income, employment, food costs, and the structure of the food industry all affect what people eat. Only recently have some health professionals turned their attention to all these factors and begun to design interventions that take them into account.

<b>Psycho-social factors</b>	<b>Economic factors</b>
◦ education, formal and informal	◦ income/employment
◦ beliefs, attitudes	◦ food costs

<b>Table 1 FACTORS AFFECTING FOOD CHOICES AND EATING PATTERNS</b>	
<b>Psycho-social factors</b>	<b>Economic factors</b>
◦ knowledge, food and nutrition skills	◦ food advertising and food information systems, cosmetic appearance
◦ gender, age	◦ access to quality retail outlets
◦ language, culture, ethnicity	◦ housing, child care and costs of other basic needs
◦ social norms re: appearance, body image, self-esteem	◦ structure of the food economy
◦ social and community supports, including access to community food programs	◦ type of food available, and food quality
◦ personal tastes	◦ food production and processing

As well, traditional food-related initiatives have tended to focus on factors of food intake. With the exception of microbial hazards, significantly less attention has been paid to the systemic factors contributing to nutritional quality and food contamination (Table 2), and the public health problems that might be associated with them.

<b>Table 2 MAJOR FOOD INTAKE FACTORS THAT MAY AFFECT HEALTH</b>	
<b>Significant attention: Factors relating to food selection and the inherent qualities of the foods selected</b>	
<	Servings per food group
<	caloric and protein intake
<	% of calories as fat
<	Types of fat
<	Fibre
<	Major and micro nutrients
<b>Less attention: Factors relating to the growing, storing, processing, distribution and preparation of food</b>	
<	Production practices (soil management, agrichemical use)
<	Storage practices (nutrient retention, pest prevention)
<	Processing techniques and additives
<	Length of the distribution chain
<	Cooking techniques
<	Biological and chemical contamination
<	Freshness, absence of injury

Tackling this complexity with new information tools is obviously a challenge. The principles of social marketing and media advocacy are appropriate to this kind of task. Social marketing applies advertising and marketing concepts to make positive health behaviours more appealing. It has had some success in heart health and safe sex promotion, and smoking cessation. As an approach, however, it has often been criticized for focussing excessively on simple behavioural change. To be successful in this context would require a more sophisticated application.

Media advocacy is a newer concept and is best known for its application in smoking control work. It is “the strategic use of mass media for advancing social or public policy initiatives. It does not attempt to change individual risk behaviour directly but tries to change the ways in which problems are understood as public health issues.”<sup>55</sup>

Information tools, consistent with these kinds of approaches are offered below and are at the core of efforts to change consumer information systems.

### **7.3 Evolutionary change**

Our objective is to help develop information systems that actively support healthy food choices. Although as a society we understand reasonably well the kind of diet that will help produce a healthy population, governments and professionals have largely failed to provide the structures and resources to ensure that it happens. They have, instead, largely relied on an increasingly discredited approach to creating health - individual behavioural change without addressing significantly the forces contributing to unhealthy behaviours.

Given the current low level of support for significant change to consumer information systems, the transition will have to be a slow, evolutionary process requiring action by many different advocates for change, both within and outside of these systems. We imagine a transition that is based on health promotion principles and healthy public policy, and is evolutionary (3 stages), with each stage leading to the next.

We employ a transition framework adapted from one used to map out desired changes in the food and agriculture system<sup>56</sup>. This framework serves as both a guide to action, and an indicator of progress.

Stage 1 strategies involve making minor changes to existing practices to help create an environment somewhat more conducive to the desired change. The changes would generally fit within current consumer information activities, and would be the fastest to implement. For example, modifying the visual presentation on a packaging label would make existing information more accessible to many consumers. Second stage strategies focus on the replacement of one practice, characteristic or process by another, or the development of a parallel practice or process in opposition to one identified as inadequate. For example, a new system of providing nutrient value information on a food packaging label would replace what is currently provided. Finally, third stage strategies are based on the principles of healthy public policy, consumer right to know and market theory. These strategies take longer to implement and demand fundamental changes in the use of human and physical resources. This final, or redesign stage, is unlikely to be achieved, however, until the first two stages have been attempted. Ideally, strategies should be selected from the first 2 stages for their ability to inform analysts about redesign (the most underdeveloped stage at this point) and to contribute toward a smooth evolution to the redesign stage.

In the next few chapters, we identify strategies to move us in this new direction.

## **8.0 Product labelling**

As discussed above, consumers are not entirely satisfied with product labels. Product labels usually provide information on the company, the name of the product, some nutrition information, a list of ingredients, sometimes the product grade, its source, its freshness, and occasionally claims about the value of the food. All these are problematic. As well, little information on the food production process and possible contaminants is provided.

These problems exist despite the claims of government that food labelling policies and regulations ....” promote an informed food choice, by providing consumers with reliable and comparable information, that reflects current food technology and nutrition recommendations and that can be easily understood”<sup>57</sup>

We assess the difficulties and offer some alternatives.

## **8.1 Nutrition labelling<sup>58</sup>**

The USA FDA believes that comprehensive nutrition labelling can have a major positive benefit on health outcomes and can dramatically reduce health care expenditures. They calculated that, over a 20-year period, health benefits of mandatory nutrition labelling would be valued at \$3.4-3.6 billion US based on life years gained. The costs of implementing mandatory labelling would be \$0.84 - 1.68 billion US depending on the length of the compliance period<sup>59</sup>.

Despite such evidence, nutrition labelling is not mandatory in Canada, except in cases where a specific nutritional claim is being made. In such cases, only the amount of nutrient for which the claim is made must be disclosed<sup>60</sup>. Where labelling is provided, it is often incomplete, and/or difficult for the consumer to read and interpret. Only about 20% of packaged foods in Canada carries nutrition labels<sup>61</sup>. Nutrition information is not usually provided for fresh meat, poultry, seafood, fruits and vegetables. Companies may voluntarily list nutrients, and then such a list must include energy, protein, fat and carbohydrates. Other listings are at the discretion of the company.

As well, Canadian regulations do not require a standardized format for providing nutrition information. The Guide to Food Labelling and Advertising does provide a standardized presentation format, but its use is voluntary.

Serving size information is confusing. Nutrition information must be based on one serving size, but a serving size is only loosely defined as “an amount of food which would reasonably be consumed at one sitting by an adult”<sup>62</sup>. Serving sizes are suggested, but do not, and frequently, are not followed by manufacturers. Consequently, within a particular food category, serving sizes may vary significantly across brands, making it very difficult for consumers to compare. Furthermore, the rules allow manufacturers to use unrealistically low (as it relates to usual consumption patterns) serving sizes which means problematic ingredients (e.g., salt or fat) may appear to be of lower content than they really are<sup>63</sup>.

Finally, Canadian regulations make it difficult for consumers to understand the significance of any particular nutrient because there is no reference to what levels are optimal for human consumption.

### **8.1.1 Fat**

Fat and cholesterol are particular consumer concerns, but current label rules make it more difficult for consumer to assess whether their fat intake is appropriate. We provide three examples of how this occurs.

#### *Milk*

The inconsistency between the Healthy Eating Guidelines approach to identifying appropriate levels of fat in the diet and the labelling rules create consumer confusion. Milk, an essential part of most diets, is one unfortunate example of this confusion.

Labelling rules for fat require that the grams of fat per unit serving are listed on the label. Canada's Healthy Eating Guidelines for fat are listed as a percentage of energy (i.e., no more than 30% of total calories from fat). In the case of milk, however, different milks are defined by fat as a percentage of total weight.. Consumers buy whole milk (usually around 3.3% fat by weight), 2%, 1% or skim (no more than 0.3% fat). If these products were labelled in a manner consistent with the approach used in the Health Eating Guidelines, then the labels would read 51% calories for whole milk, 35% for 2% milk, 21% for 1%, and 7.7% for skim. Consequently, adult consumers who feel that they must reduce their total fat intake, yet still wish to consume appropriate levels of milk, may believe that consuming reduced fat milk is a far greater reduction in fat consumption than it really is.

Although it is not essential that every food product comply with the 30% guideline, in the current environment in which fat consumption is too high and consumption of foods low in fat, such as fruits, vegetables and grains, is insufficient, having an essential food like milk with such a misleading label is not helpful. However, because health professionals wish to encourage milk consumption, there is a need for a clear encompassing message on food products that tells consumers about a product's nutritional value. One such as **“This food is highly nutritious but also high in fat. Suggested serving size for a healthy adult is maximum xx servings per day, the serving size being xx ounces”** (amounts depending on product) would provide consumers with guidance, and, in combination with details about fat content, would offer a more comprehensive way of informing consumers about their food.

#### *Fatty ingredients that do not need to be labelled*

Certain fatty ingredients do not have to appear on a label for a prepared food<sup>64</sup> (reg. B.01.009). These include butter, margarine, shortening, lard, and leaf lard. If cheese is less than 10% by weight of a packaged product, it does not have to appear on the label. If vegetable and animal fats and oils are less than 15% of a prepackaged product, they do not have to appear on the label. Not seeing these products listed on the label, consumers may again believe that they are consuming products of lower fat than they really are. Also, since these products are almost 100% calories from fat, 10-15% fat by weight, in most prepared products will translate into a percentage fat of total calories that likely exceeds the dietary guideline.

#### *Trans-fatty acids*

Trans-fatty acids (TFAs) result from the high temperatures and hydrogenation process used to convert refined oils into margarine, shortenings, shortening oils and stiffened (partially hydrogenated) vegetable oils. In their natural state fatty acids have a cis configuration, and the hydrogenation process causes the rotation of one or many molecules, in effect, twisting the acid into a new shape<sup>65</sup>. This twist, however, is thought to change substantially the fatty acid's properties, activity in the body, and ultimately effects on health.

Some scientists believe that trans-fatty acids can<sup>66</sup>:



- C increase total cholesterol, “bad” low-density lipoprotein (LDL) cholesterol and blood fat levels, contributing factors to coronary heart disease;
- C disrupt the functions of essential fatty acids (EFAs) which have a role in cancer prevention;
- C reduce the activity of certain cells involved in immune function;
- C disrupt a range of reproductive activities in both men and women.

Intake of trans-fatty acids has likely decreased in recent years as total fat intake has declined somewhat and industrial production of margarine has partially shifted to softer margarine with slightly lower trans fatty acid contents. In the USA, estimates are that trans isomers of margarine range from 7% - 24%<sup>67</sup>. Assuming Canadian margarine are consistent with USA ones, then trans isomer intake is still significant. Although small amounts of trans-fatty acids are not likely to be a health hazard, it is not uncommon for some people to consume large amounts of TFA if their diets regularly include hydrogenated and hard margarine, packaged cookies and pastries (as opposed to using butter and oil in home cooking).

There is no requirement to label trans-fatty acids, although Health Canada officials have indicated this may change in the near future. Their levels in food can now only be determined by calculating the difference between the total fat of the product and the total of the listed subcategories. The federal government has consistently refused to require labelling because of strong opposition from the food industry and some scientists who feel that the evidence is insufficiently conclusive. Hydrogenated oils are a mainstay of the food manufacturing and fast food industries, in part because in the hydrogenated form they are cheaper to handle and distribute, and produce crispier fried food. Hydrogenated oils are protected longer against rancidity and therefore products have a longer shelf life.

Labelling of TFA would likely produce a negative consumer reaction against it, requiring the industry to modify its use of hydrogenated fats, a situation the industry is keen to avoid. There are reports from the US that manufacturers will lower their content of saturated fats, which must be labelled, and increase the TFA content because there are no labelling requirements. In Europe, however, the industry has made great strides in removing TFA from their processes<sup>68</sup>, and of course, the regulatory environment regarding TFA is generally stricter than in North America. For example, the Netherlands has recently taken a very proactive stand against TFAs by legally requiring reduced TFA content, to less than 1% in most margarines. Dutch scientists project that, as a result of this measure, TFA consumption for the average person will decline by 4 grams/day (compared to 10-15 years ago), and that coronary disease incidence could fall by 5%<sup>69</sup>.

The history of change at the manufacturing level is closely allied with informed consumer demand for such changes. Consumer concern about fat has encouraged changes to fat labelling rules, and such changes have, in turn, affected consumer purchasing patterns. One would expect a similar result from the labelling of trans-fatty acids. Consequently, the failure to label effectively encourages the consumption of undesirable fats.

### **8.1.2 Comparing the USA and Canadian nutrition labels**

Some in the food sector believe that Canadian consumers find US nutrition labelling more useful<sup>70</sup>. There are regularly calls in the press for a more US-style nutrition labelling system, and the free trade agreements are exerting pressure, through Codex Alimentarius and the NAFTA, for harmonization of such systems. A brief comparison of the two systems is provided here<sup>71</sup>.

In general, the US system is more informative for consumers. Relative to the Canadian system, its strengths are:

- C consistent and clear label formats;
- C more foods are covered by nutrient labelling regulations;
- C greater nutrient information requirements on labels, including total calories, calories from fat, total fat, saturated fat, cholesterol, sodium, total carbohydrates, dietary fibre, sugars, protein, vitamins A and C, calcium and iron;
- C more consistency in serving sizes;
- C clearer presentation of the relationship between nutrient content and average daily requirements for the nutrient.

The Canadian system is, however, more stringent in a few areas:

- C Canadian criteria for many nutrient claims have been more stringent than the US.
- C fewer nutrient claims are allowed<sup>72</sup>.

However, what both nations lack is comprehensive and attributable messages regarding nutrition. Both nations focus on the details of nutrition information, and fail to provide any overarching guiding messages or colour coding schemes for consumers that would help the less nutritionally literate make informed decisions.

## **8.2 Ingredients listings**

Product ingredients have received some attention from consumers over the years, in part because of confusion about what products contain, and partly due to reports about health problems associated with certain ingredients, particularly allergens, preserving agents, food dyes, flavour enhancers, and fat and sugar substitutes.

Current ingredient list rules specify that ingredients be “listed in descending order of proportion by weight in the food, except for spices, seasonings and herbs (except salt), natural and artificial flavours, flavour enhancers, food additives, and vitamin and mineral nutrients and their derivatives or salts, which may be shown at the end of the ingredient list in any order”<sup>73</sup>. In other words, these exceptional components are not listed in a consistent way.

Other exceptions of importance include:

- C Ingredient listing requirements do not apply to foods that aren't packaged for consumers. This means that "clerk served" foods are exempt from ingredient labelling regulations. It is assumed, questionably in our view, that clerks and servers should know what ingredients are used but it is not required. This means that the onus is on a consumer with an allergy to ask the clerk for names of ingredients used in the preparation of whatever food product is being considered for purchase.
- C Not all prepackaged multi-ingredient foods require an ingredient list, including those packed from bulk at retail (exception: mixed nuts); prepackaged individual portions served with meals or snacks by a restaurant or airline or servings prepared by commissaries and sold in canteens or vending machines; and prepackaged meat or poultry products or by-products barbecued, roasted or broiled on the retail premises.
- C Certain foods and classes of foods may be listed by class names including vegetable oil, colour, flavour and artificial flavour, spices, and milk ingredients.
- C Many foods when used as ingredients of other foods are exempt from a declaration of their components including many fats, sweeteners, jams and flours
- C Certain food preparations and mixtures, including flavours and seasonings, are exempt from a declaration of most of their components.

Many of these exemptions appear to be for the convenience of the manufacturer.

### **8.2.1 Quantitative Ingredient Declarations (QUID)**

Just listing ingredients in descending order can lead to consumer confusion. For example, two different brands of spaghetti sauce may both have water listed as the first ingredient, yet the amount of water could vary by 50% without any changes in the list order. Manufacturers may also feature ingredients in the wording or images of the product packaging that suggest it is higher in that ingredient than it really is<sup>74</sup>.

To counter this, advocates are calling for Quantitative Ingredient Declarations (QUID). Thailand has the most comprehensive QUID, requiring full percentage labelling for each essential ingredient contained in products sold directly to consumers. The European Union will also require, by the year 2000, QUID when ingredients are associated with a product - e.g., strawberry yoghurt; or when the wording or imagery on the label implies a significant quantity of an ingredient. The USA does encourage QUID on a voluntary basis, but only requires it for beverages claiming they contain fruit or vegetable juice, peanuts in peanut spreads, olive oil in olive oil blends, and seafood in seafood cocktail. Consequently, few firms provide this information<sup>75</sup>.

Canada does not require QUID.

### **8.2.2 Allergens and additives**

Similarly, rules about providing information on known allergenic foods, such as peanuts, tree nuts, sesame seeds, milk, eggs, fish, crustaceans and shellfish, soy, wheat and sulfites are not very rigorous. Although ingredient listings are required on packaged foods, the exceptions means that certain common allergens, such as peanut oil, wheat flour, soy protein, and sulfites may not appear on the ingredients list. It is not mandatory for companies to provide this allergy information, although they are encouraged to do so by the Canadian Food Inspection Agency. The commonly seen label “may contain [allergen]” is not required, but some companies have chosen to use it.

Business people are often in a bind regarding controversial, but permitted, product ingredients. For example, including MSG in a product has been controversial for a number of years. Most marketers try to avoid its use because some consumers have bad reactions to it. But MSG is an inexpensive flavour enhancer which makes it possible to achieve good product results in taste tests and lower product costs. Even marketers who do not want to use MSG sometimes approve its inclusion in order to meet cost guidelines for product launch, if the alternative is not to launch.

So clearly there is a tension between consumer concerns, consumer health and business exigencies. Given this reality, full ingredient listing becomes more critical. Consumers need to know not only what ingredients are present, but their function. They should be able to identify ingredients that serve primarily non-nutritive purposes. Proposals for change are outlined in Section 11.

### **8.3 Freshness dating**

For many consumers, freshness is a key factor in purchasing a product<sup>76</sup>. Canada, as with many other countries (with the notable exception of the USA), requires a freshness date on some food labels to advise consumers about how long the product has been on the shelves, and when the manufacturer can no longer guarantee the product will be fresh.

Canada requires a “Best before” date on pre-packaged foods with a shelf life of 90 days or less. There are, however, some notable exceptions, including pre-packaged fresh fruits and vegetables, vending machine foods, clerk-served food, and donuts<sup>77</sup>. There is also no requirement to date foods that are not pre-packaged, so, for example, a store does not have to inform consumers how long it has been since vegetables and fruits were picked.

It is well established that foods lose nutritional value over time. In fruits and vegetables, there is potential for significant nutrient loss because of our centralized, industrialized system. The losses result from premature harvest (to comply with shipping schedules), late harvest (to optimize yield and income), or from shipping and handling. Water soluble vitamins (thiamin, riboflavin, vitamin C, some minerals) are particularly susceptible to losses under a variety of conditions present between harvest and consumption.

So freshness is not just about taste and safety, but also about nutritional value. In our view, the absence of freshness dating on perishable products shipped over long distances allows agribusiness firms to disguise the negative consequences - for both nutrition and the environment - of long distance food transport. Manufacturers and retailers should be obliged to provide freshness information on all foods.

#### **8.4 Source/origin**

Increasingly, consumers are interested in supporting local food producers. FCPMC surveys, for example, have shown a high degree of willingness to buy Canadian, particularly among older shoppers<sup>78</sup>. This is partly due to increased awareness of the financial plight of farmers and partly a belief in freshness that is (rightly or wrongly) often associated with local production. Commonly, agricultural policy makers are missing an opportunity to enlist consumers in their efforts to support local food producers<sup>79</sup>.

As discussed in section 4, the current approach misleads consumers. For fresh fruits and vegetables sold in bulk at retail, provincial rules are in effect. In Ontario, stores and markets are required under the Farm Products Grade and Sales Act to post signs identifying the country of origin [“product of (country/province)”]. However, there are no specific provincial requirements regarding the visibility of the notice. For pre-packaged fresh fruits and vegetables (e.g., bagged potatoes, berries in plastic containers), federal rules apply. Only imported goods must declare the country of origin on the packaging with lettering based on the size of the package<sup>80</sup>. Domestic pre-packaged produce is not required to have country of origin labelling, although it must have a grade. There is no requirement to provide information on the origin of fruits and vegetables in restaurants or at the wholesale level. For other fresh foods, the federal Consumer Packaging and Labelling Act is the primary determinant of the applicable rules. In most cases, there are no specific country of origin labelling requirements. It appears that regulators rely on the grade and the address of the producer/broker/importer that is sometimes required to inform consumers about where the product comes from. This is inadequate since many imported food also require grades and there is no way for the consumer to determine the origin.

For processed foods, there is room for considerable additional confusion. Country of origin labels are not required. Some labels have the statement “made in Canada”, but according to the Guide to Food Labelling and Advertising, the notice “made in Canada or product of Canada imply that the food was manufactured in this country. However, these statements do not necessarily mean that all of the ingredients used are domestic”.

Creating a new system is complex for processed foods. Many products are now globally sourced and processed, resulting in an international ingredient lists. Some products are manufactured locally, but use international sources. Others may have Canadian components but have been manufactured elsewhere and then imported. Because of the degree of foreign ownership in the Canadian food economy, another complication is added.

Other food sectors have struggled with different, but related matters and come up with guidelines for

labelling. For example, the organic sector allows, depending on the certification program, a manufactured food to be labelled certified organic when a minimum of 80-95% of the ingredients are certified organic. When the food contains 50-70% organic ingredients, depending again on the certification program, each individual organic ingredient can be labelled as such, but not the entire product. CFIA should study this system and use its lessons to revamp country of origin rules.

A similar system needs to be developed for local foods identification. Monitoring such a system could, as exists in many other areas of the food system, be a private/public collaboration in which the private sector pays for the costs of inspection and accreditation and the government agrees to the guidelines and audit systems, and provides oversight of the accreditation process. This model has now also successfully been used in foods produced from Integrated Pest Management systems.

The first steps have already been taken in Ontario. At least 4 regions of the province (Windsor, Niagara, Peterborough and the Renfrew Valley) have established local food labels. Their introduction and use is monitored by a cross-sectoral committee of key businesses and institutions in the region. Although not currently as rigorous as systems used in organic production, it is first step in that direction.

## **8.5. Food grading**

Consumers have historically used grades on produce and meats to make decisions about what to buy. Unfortunately, the grading systems are inadequate to perform effective consumer information. The meat industry has responded to consumer concerns and adjusted grading systems to produce leaner products. Unfortunately, for fruit and vegetable grading, appropriate adjustments have not been made.

### Meats

The grading systems for beef<sup>81</sup> (and hogs, and to a lesser extent lamb and veal) have changed over time. In 1972, the use of marbling as an indicator of quality was eliminated. As well, lean carcass content was encouraged by introducing backfat as a measure of leanness. This measure combined with animal weight, was used in a formula to calculate the amount of leanness. In 1992, the grading system was adjusted again and marbling was reintroduced as a quality indicator. The new grading system identified three levels of marbling within the A grade (A,AA,AAA). Carcasses with insufficient fat (exterior or marbling) are graded B. This is because some internal marbling is necessary for high quality beef (tenderness, texture and taste). These three marbling levels correspond to the three lowest levels on the US marbling scale of 10.

In contrast, there is still a price incentive in the US grading system to produce higher fat meat. US cows have more marbling and external fat, partly because of breeds and partly grading standards. Our exported beef tends to compete with the second grade US, “select”. “Choice” is their main grade making up 60-65% of feedlot cattle in the US. Most of the imported meat is USDA “select” which is equivalent to our AA, and some is the lower end of “choice” which is equivalent to our AAA. Canadian retailers legally have to label the grade of beef so they rarely accept “ungraded” beef from

US. According to industry sources, in the US, although there have been no major change in grading, the beef is gradually getting leaner.

Changes to the hog grading system have paralleled those of the beef sector, rewarding producers for lean meat. Although not as significant as developments in beef and pork, there have been some changes to sheep grading. The present voluntary national classification system<sup>82</sup> is primarily focussed on lean meat yield. It uses a muscling assessment and measures fat tissue depth over the animal's second last rib. The market requirement is 9-14 mm of fat. If the meat is too lean or fat, producers are penalized financially. In Ontario, sheep are graded in 3 categories: thin, normal, and fat.

Poultry grading, until recently, had a minimum fat requirement for grade to be issued. This minimum fat requirement, a consumer, provincial, and federal government initiative (not to do with the marketing boards), was brought in because producers, attempting to get chickens to market faster, were producing chickens without enough fat, having poor colour and appearance when sold as a whole bird. Now birds are often sold cut up and the majority of chickens now have more than enough fat, so the minimum fat requirement has been dropped. Processors have wanted to maintain it on a voluntary basis because they have found that the grade tag helps with sales<sup>83</sup>.

### *Fruits and vegetables*

A common argument presented by the food industry is that consumers are more concerned about cosmetic appearance than environmental factors. The argument goes that without pesticides, produce will look worse, and consumers will be less likely to buy it. Proponents argue that cosmetic appearance is very important given, for health reasons, the need to increase fruit and vegetable consumption.

It is true that significant reductions in pesticide use can result in a lower yield of cosmetically perfect produce. However, these reductions, except in extreme cases, have little influence on nutritional quality<sup>84</sup>. Unfortunately, produce grading systems are based almost entirely on cosmetic factors and virtually no nutritional ones, and are a major force driving farmers to use pesticides<sup>85</sup>. But the most telling rebuttal of industry views is the reactions of consumers themselves. When provided with production histories, studies show that consumers are much more likely to rank cosmetic appearance of lower importance and consequently purchase foods of production systems using less pesticides<sup>86</sup>. Knowing this, the produce industry and retailers may be more willing to accept and encourage reduced pesticide use<sup>87</sup>.

## **8.6 Food production and processing systems**

As discussed earlier, the current system focuses primarily on product, not process. In this view, the means by which a food is produced is not relevant unless it changes accepted food safety and nutritional parameters. As discussed in section 7.1, the dominant interests in the food system are attempting to prevent process labelling from gaining a significant foothold.

There are a few significant exceptions to this general rule. Rules for using the label “organic”, “kosher” or “halal” are all process-based. They describe how the food is grown, raised and processed. Codex Alimentarius, in an apparent contradiction of its own criteria, has been developing for many years standards for these labels. It is apparently willing to do so because it sees these systems as producing marginal or niche food products. It is unwilling to apply process-based rule making to foods considered part of the dominant international food economy because of the significant economic impacts on international agribusiness that would result.

There are three significant areas where controversy about the process of food production is creating pressure for labelling.

### **8.6.1 Genetically-engineered (GE) foods**

The reaction of European consumer, businesses and governments to genetically-engineered corn and soybeans is an instructive example of how process-based labelling can only be ignored at the commercial peril of firms and governments. Surveys reveal that as many as 85% of Europeans would shun genetically altered food if given the choice<sup>88</sup>. Led by Greenpeace, and other environmental and consumer organizations, the possibility of a consumer boycott is real.

Although the European Union has approved genetically-modified foods for sale, retailers, manufacturers and many national governments are not complying. The Swiss government has delayed permission to import the altered soybeans because of negative consumer reaction. Both the Swiss and German governments also want mandatory labelling of genetically-altered foods. The French government originally announced it would not allow the sale of genetically-engineered corn, but has since backed down on this and allowed corn, but still refuses to allow genetically modified canola for sale. In defiance of the European Commission, Luxembourg and Austria have imposed national import bans on the corn. Norway is preventing the growing of a number of genetically-engineered crops because of fears about human health.

Consumer concerns are having an impact on the market. AgrEvo, a major developer of genetically engineered crops, has decided to delay introduction of one of its GE soybeans - Liberty Link - until 1999. AgrEvo Vice President Glen Donald said at the time of the announcement, “While this year's [1998] introduction of Liberty Link soybeans was to be very limited and containment plans to insure domestic use were in place, trade groups and U.S. government officials had expressed concern about their potential impact on U.S. soybean exports. Unlike the corn industry, which has roughly 1% of U.S. production going to Europe, nearly 40% of U.S. soybean exports are sold to European countries.” The American Soybean Association (ASA) was pleased with the company's decision to delay marketing of the new beans because the decision would help protect export sales worth \$9 billion a year. Writing in *Feedstuffs Magazine*, Ian Elliot said that AgrEvo's decision was another sign that biotechnology firms in the U.S. were adopting a more pragmatic approach to marketing their products.

H.J. Heinz Co., the single largest buyer of Ontario white beans, and having 57% of the U.K. bean market, has been visiting suppliers saying that it wants to maintain GE-free status for its beans. Bean



breeder Tom Michaels, of the University of Guelph, said in response “We’re aware of Heinz’ position and aware of the need for the [Ontario Bean] board to sell product into the U.K....We’re doing some exploratory (biotech) work because we need to know, but not doing commercialization because we recognize the need of the industry and the concern of European consumers.”

Industry giants are also coming around to the view that labelling of GE foods will be necessary. Following several years of vociferously opposing labelling, many have seen the writing on the wall. Novartis, one of the world’s largest chemical, pharmaceutical and genetics companies announced its support for labelling. Said Novartis chairman Alex Krauer at the company's 1998 annual financial results meeting, “We are in favor of labelling. We want to be open and transparent. That means we acknowledge the wish of the European consumer to know what he or she buys.” Feedstuffs also reported that “Monsanto favors clearly stating the origins of packaged foods on their labels.” Critics remain sceptical of industry commitments to labelling, particularly at the consumer level, since some industry proposals have just involved labelling at the wholesale, not the retail level. But under EU regulations adopted in May of 1998, and very much a result of consumer backlash against GE foods, processors using corn and soya - the only genetically - modified food currently allowed for sale - would be required to put the statement on packaged foods: “produced using genetically-modified [corn or soya]”. Producers have the option of using negative labels - “Does not contain genetically modified organisms”.

Despite claims from industry that it is impossible to separate GE from non-GE foods, brisk business at two labs testing for genetic engineering in food, Genetic ID of Fairview, Iowa and TNO Nutrition in the Netherlands, show otherwise as food buyers and manufacturers wanting to meet their customer’s demands for non-GE products use their services to guarantee the authenticity of their claim of no genetic engineering involved in their food products.

British retailer Iceland Foods, with 770 stores and 16% of Britain’s frozen food market, started in 1998 to market its “own label” brands as not containing genetic engineering. Iceland's technical manager Richard Wadsworth said that because US growers and distributors claimed it was too difficult to segregate, “We went back and found new sources in Brazil and Canada, and we were a lone voice. But once we told people this was the way we were going, then we were offered a lot of help.” A segregation model based on existing controls for organic produce was used to bring beans in from Canada, and in Brazil the non-GE beans were processed at source, he said. Iceland Chairman Michael Walker stated that genetically engineered products ..... could potentially be “more devastating in its impact to health and the environment than BSE.... The long-term health and environmental effects of genetic engineering of foods is unproven. Consumers are being used as human guinea pigs without their knowledge. The introduction of genetically modified ingredients is probably the most significant and potentially dangerous development in food production this century, yet the British public is largely ignorant of it and they are likely to be eating genetically modified foods already without their knowledge. The British Government has colluded by non-action, and food retailers and manufacturers have rolled over and accepted the situation.”

Those who haven’t committed to segregation have suffered. The Canadian GE canola market was lost

in 1998 because the European Union has refused to allow it entry. Canadian farmers first segregated GE canola from non-GE foods, but stopped doing it based on Canadian industry recommendations.

Although Canadian consumer anxiety about GE foods is regularly reported in news reports and surveys, opposition has not been as dramatic as in Europe, and the food industry has felt less pressure to respond. While the Canadian federal government is spending \$400 million annually on biotech promotion, and industry spends more hundreds of millions on development and advertising, critics with almost no resources are actively organizing against GE foods. Some members of the federal Liberal caucus, often in response to constituent's concerns, are opposing their own government on these matters, offering up proposals for an independent commission to examine the pros and cons of GE foods, and private members legislation to ensure that GE foods are labelled so that consumers can make informed decisions.

In Canada, the current federal position is that genetically-engineered foods must only be labelled if the GE food presents potential health or safety risks to individuals and the population (e.g., allergens), or if the GE product has significant compositional or nutritional changes from the food from which it derives. The federal position does allow voluntary labelling, either positive or negative, providing the claim is not misleading or deceptive and the claim is factual. Violations would be subject to the provisions of the Food and Drugs Act.

It is clear from government consultations with industry<sup>89</sup> that resistance to mandatory labelling comes from fears about consumer reactions to such a label, and the costs associated with having to segregate product.

Other reasons why the government / industry position is problematic and contradictory<sup>90</sup>:

- C If biotechnology is as wonderful, and free of potential harm, as the industry and government proclaim, then why doesn't the industry insist on labelling its products as produced through biotechnology in order to capture a market advantage?
- C The biotech industry also says, 'let the market decide' on the merits of biotechnology. The market cannot make an informed choice unless there is comprehensive labelling as to product and process. It is contradictory to claim that labelling would be misleading and impossible while saying that the market should decide.
- C Negative labelling is not a reasonable option because it shifts the burden of proof for such claims to those who object to genetically engineered food, and for the most part, they do not have the financial resources, relative to those of biotechnology proponents to bear those costs. Those who wish to produce foods through biotechnology should be required to bear the responsibility and cost of appropriate testing and labelling if they wish to market their products.
- C The Canadian (and Codex) definition of 'novel foods' restricts it solely to identification of new processes (and their products) "that are truly new and cause substantial changes in the food".

'Substantial change' is equated with "major change", which is defined as "a change in the food that, based on the manufacturer's experience or generally accepted theory, may have an adverse effect..." In addition to an explicit reliance on vague and evaluative concepts, such as "manufacturer's experience", "substantial", "generally accepted" and "theory", such a definition identifies a major fault in the whole regulatory process: reliance on the self-interested claims of the proponent of the genetically engineered food. Use of the concept of "substantial equivalence" also avoids, deliberately, the establishment of objective, publicly available, standards. The absence of any objective reference for "substantial equivalence" also means that a suitable reference can be created on the spot to suit the needs of the moment.

Our proposal, outlined below, to prevent these problems is that any food product that derives directly or indirectly from genetic engineering be so labelled.

### **8.6.2 Pesticides**

Pesticides in the food chain are a growing public health concern. A review of the Canadian food supply by the Canadian Environmental Law Association found contaminants in all major food groups, including eggs, chicken and beef. Substances such as metals, pesticides, solvents and plasticizers, to name only a few, were reported at parts per trillion to parts per million levels.

The federal government's annual food residue testing program usually finds that about half of the domestically produced foods tested have detectable pesticide residues. Imported products, particularly fruits and vegetables, usually have even higher percentages of samples with detectable residues. Only a percent or 2 of the samples exceed the governments residue limits.

But the evidence that these small doses have a negative effect continue to mount. Scientists are focussing particularly on immune system suppression, specific types of cancers and chemicals that disrupt normal hormone activity in wildlife and humans.

Some specific types of cancers have been linked to long-term exposure to environmental contaminants. For example, there is a growing body of evidence linking organochlorine pesticides to breast cancer. In 1995, the Ontario Task Force on the Primary Prevention of Cancer acknowledged the mounting evidence linking exposure to environmental carcinogens with cancer and recommended exercising a prudent approach to reduce overall exposure to contaminants<sup>91</sup>.

In a recent review of pesticides and immune system suppression, Repetto and Baliga of the World Resources Institute in Washington DC, presented evidence of the ways pesticides and other industrial chemicals may compromise immune system functions. They reported that pesticides may suppress the activity of the cells responsible for eliminating cancerous cells, thereby allowing tumours to develop. They may reduce host resistance to cancer-causing viruses, promote breakdown in immune system surveillance of damaged cells, induce autoimmunity, bind to receptor sites and block immune system functions, and provoke allergenic reactions<sup>92</sup>.

An emerging theory, led by scientists working with the World Wildlife Fund (WWF), is that industrial and agricultural chemicals can, at very low levels, disrupt or mimic the actions of hormones. Hormones are messengers, providing information on cell growth, division and death. When these chemicals are in the body, they may turn on cell activity at the wrong time or prevent the real hormones from doing their job. The chemicals implicated include common agricultural pesticides such as: DDT, 2,4-D, aldicarb, atrazine, and synthetic pyrethroids and other industrial chemicals that may be found in plastics used in food packaging, such as phthalates, polycarbonates (Bisphenol A), and styrenes.

The potential adverse impacts of these chemicals include: reduced sperm counts; hatching problems (in birds); delayed sexual maturity; lack of interest in mating; birth defects; spontaneous abortions; reduced size of sexual organs at maturity. In humans, one of the areas of concern is the linkage between exposure to environmental chemical contaminants and reduced sperm counts. A number of studies from around the industrialized world have reported reductions in male sperm counts over the past 50 years<sup>93</sup>.

The evidence is mounting that regulators have seriously underestimated the risk to children of eating pesticide residues on fruits and vegetables<sup>94</sup>. By the age of 5, children have consumed over 1/3 of their entire lifetime dose of some carcinogenic pesticides, usually from fruits and vegetables<sup>95</sup>. Children are exposed to more chemical contaminants than adults on a per body weight basis. Those aged 1-5 years eat between three and four times more food per body weight than adults. Unfortunately, the safety levels are set for adults. Because health surveys show that most children aren't eating enough fruits and vegetables to optimize nutritional, parents are left in the odd position of choosing fruits and vegetables to reduce risks of some diseases at the risk of increasing them for others.

A 1998 report by the Environmental Working Group (EWG) in Washington, using the US government's own data, concluded that one child in 20 in the US is likely exceeding the adult safety standard for consumption of organophosphate pesticides, known inhibitors of nervous system function<sup>96</sup>. This new way of aggregating information is required by the recently adopted US legislation - the Food Quality Protection Act. Regulators must now aggregate exposure to toxic compounds that have similar effects in the body, and the EWG study is the first to show that when this is done, many times more people are at risk than was concluded from old methods of determining risk (usually 1 in 10,000 - 1 in a million has been the safety margin, calculated product by product).

Given the reluctance of both the Canadian and US governments to encourage seriously pesticide reduction, environmentalists in both countries have decided to get the market place involved. Working with growers, processors and retailers, groups are creating Integrated Pest Management (IPM) protocols that farmers follow to reduce reliance on pesticides. The products are then identified with information and/or symbols on the label as products of pesticide-reduced farming systems. WWF-Canada and its partners have created an IPM apple juice and are working on potato and canola products as well. WWF-US has a potato project going with growers in Wisconsin. Mothers and Others for a Liveable Planet, based in the US northeast, has an IPM project with apple growers called Core Values Northeast. IPM vegetables are also available in the US northeast, from a project

involving Cornell University and Wegman's, a major retailer in the region. Washington State apple and cherry growers also have a sophisticated program, the Stemilt Growers Responsible Choice Program.

These collaborations have developed because governments have failed to provide information to consumers. The BC and Quebec governments have created a legal framework for labelling these kinds of initiatives, a framework that should be adopted by the federal government. Through Health Canada's Pesticide Management Review Agency (PRMA), there are some preliminary efforts to develop IPM protocols, but the agency is not enthusiastic at this point about making the products visible to consumers.

### **8.6.3 Antibiotics in animal production**

Since the 1960's it has been recognized that the unrestricted use of antibiotics promotes the development of antibiotic resistant strains of bacteria<sup>97</sup>. Sub-therapeutic applications, excessive animal crowding, and the rise of global marketing of animal products have been cited as food industry practices contributing to the problem<sup>98</sup>. Using antibiotics as performance enhancers has been criticized for being effective only in animals kept in overly crowded, unsanitary conditions. In this view, this type of antibiotic use has facilitated excessively intensive animal husbandry practices and can be avoided by the observance of good animal care practices<sup>99</sup>. Others have felt that the use of antibiotics in agriculture has contributed to a rise in the virulence of food borne pathogens and has impeded treatment and the control of their spread<sup>100</sup>.

The authors of a 1995 Canadian study on the topic concluded that salmonella are resistant to many, mostly older, antibiotics used in the turkey industry. They studied 270 turkey flocks in 1994 and found salmonella resistance to neomycin in 14% of samples, resistance to spectinomycin in 98%, to ampicillin in 14%, to sulfamethoxazole in 58%, and to tetracycline in 38%. The authors also speculate that resistance may soon develop to some of the newer drugs being used, with an attendant potential to compromise medical treatment<sup>101</sup>. The route from Multi-drug

Resistant (MDR) pathogens in animals to humans is most likely via consumption of contaminated animal products - meats, fish, poultry, milk, and eggs. For most of the population, this is the only means of contact with animals carrying resistant bacteria.

This kind of concern has led many animal producers to investigate the feasibility of labels with claims that no antibiotics have been used in the rearing of animals. Originally made under the "natural" label, the dilution of that label's significance has forced producers to rethink their strategy. Some have used language like "raised without antibiotics and hormones". Such claims are generally permitted by the Canadian Food Inspection Agency if they are true, and the statement is written so as not to be misleading. However, there is no requirement that producers reveal their antibiotic practices on labels. Part of a strategy to encourage reduced use of antibiotics in animals, is to require that such information

be placed on a label.

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Clearly then, process-based information on food is valuable to consumers. In many cases consumers demand such information because of deeply held spiritual, health and environmental beliefs. The government and business challenge is to address proactively this concern or lose sales and legitimacy in the face of significant consumer opposition.

## **9.0 Point of purchase (POP) information**

POP materials have been used in-store for years by manufacturers for a number of purposes:

- C to bring consumer attention to a new product;
- C to encourage brand switching by offering a “cents off” coupon for purchase;
- C to encourage trial of a partner product (may include a coupon);
- C to promote a family of brands through a consumer contest;
- C to encourage increased product purchase through coupon ad pads (often requiring multiple purchases or for next-time purchase);
- C to encourage increased usage through alternative product uses (e.g. baking soda for cleaning carpets);
- C to improve shelf presence in a brand category where there are many competitors;
- C to promote a new product benefit.

Using POP to deliver nutrition and health messages has been a much rarer phenomenon, and the history of POP information use presents particular obstacles for health promotion.

In the 1970’s and early to mid-1980s it was relatively easy for a manufacturer’s sales representative to get retailer approval for point of sales material as long as they were not interfering with other products, or pricing/inventory tags on shelf. In this era, elaborate displays were built by manufacturers’ sales representatives with the help of grocery store department clerks and store managers. POP materials were accepted in almost all retail stores, because national research demonstrated that displayed products sold at higher volumes, whether or not they were “on sale”. There was credible research available demonstrating that product in free-standing display with promotional materials sold more than ten times the volume of product shelved at the regular location. Even product not on sale, but promoted with contests and coupons attached to the display (“ad pads”) sold more than product without any promotional material. The highest level of sales resulted from flyer advertising in conjunction with in-store promotion.

Up to the mid-1980s, the retail sector relied on the manufacturers to share their research with them. Marketers and sales managers put a large percentage of product promotional dollars into the purchase of quarterly ads in retail fliers and highly desirable gifts for use at store and head office level to encourage support for in-store promotions. Retailers were bombarded by food/household product

manufacturers with requests to put product and promotional material on display. The size of the store and the commitment to support only one product in a category at a time were the limits to in-store activity. Usually a good relationship between a manufacturer's sales representative and food store staff and an in-store "gift" to the appropriate store department manager was all that was required to get promotional material in store.

The retail environment became increasingly difficult in the 1980s for manufacturers and remains so today. The contributing factors were:

1. Information collection capacity shifted to an increasingly sophisticated retail sector. Technology has enabled retailers to better track sales and profits on a store-by-store basis than individual manufacturers could do. Retailers no longer relied on manufacturers to tell them what would strengthen sales and profits.
2. Retail unions gained strength. Some of the major unions required that in-store promotional material only be put up by union members.
3. Retailers recognized the profit potential in displaying manufacturer's promotional materials. In dealing with some chains, manufacturers' sales managers had to get head office "approval" (with payment) before anything could go up in store. Sales representatives were still required to get individual approval at each store in these chains. This meant another layer of payments.
4. Some retailer-approved firms are the exclusive controller of in-store promotional material. Each merchandising firm had the exclusive rights to put up ad pads in large retail chains (franchised stores were negotiated with separately). Any marketer who wanted to get ad pads up for a promotion, essentially had to rent the services of one of these firms. Advertising material had to meet their specifications and had to be delivered to them in advance of the promotion. Most of the larger chains and franchised stores participated in this program because the merchandising firm paid them for access to the stores.

Today, retailers will now only let manufacturers use very specific types of in-store promotional vehicles, and will only approve placement in very specific locations. Generally the material that is easiest to get approval for is the traditional dollar size ad pad. Some retailers will only allow manufacturers' promotional material in-store if it goes through the appropriate merchandising firm. The corporate stores of some chains will allow other POP if approved at head office and again at store level. The franchisee stores tend to be much more lenient, and will look for "profit" opportunities at store level, and a few franchisees have their own policies for in-store merchandising. The overall result is that it is complicated and expensive to have promotional materials put up in-store.

The dominant views of POP marketing may also constrain the development of nutrition messages. According to this view, the consumer's attention in a store is only retained for a few seconds, so the message on any promotional/educational material needs to be short, with a small number of very legible

words to communicate the message (e.g., ad pads). The store is not the best place for educating, but it can be used to remind people of something, or to direct people somewhere else for more information. To be effective, the material needs to stand out from the products it will be placed beside and ‘grab’ people as they walk by.

Delivering health messages is not the same as product promotion. But the traditional POP experience suggests that design and placement of promotional materials will be critical to their success. Some rethinking of traditional approaches will be necessary as these have been less successful at changing purchasing behaviour<sup>102</sup>. Where there have been some successes in changing actual purchasing patterns, shelf labels have been involved, with the following characteristics:

- C bold, easy to see graphics
- C writing at a grade 6/7 level
- C shelf price labels with nutrient information right on it
- C choose more often/choose less often categories.

Retailers are unlikely to be willing to pay for such materials, given how POP has traditionally generated additional profits. Manufacturers are unlikely to pay, as health messages will not be product specific, and would likely focus more on less processed foods.

On the positive side, many retailers and manufacturers will see participation in a health program as part of being good corporate citizens. They may recognize that generic promotion of fruits, vegetables, complex carbohydrates and dairy products will be positive for store and product reputations. It has been suggested<sup>103</sup> that the participation of well respected health organizations (Cancer Society, Heart and Stroke Foundation) would also encourage firm participation. Health Canada’s role will also be critical, given they have produced the guidelines and will need to take some financial responsibility for the dissemination of their materials.

## **10.0 Advertising**

Although advertising can contribute to market efficiency by providing consumers with information, it can also be part of an insidious process of misinforming and partially informing the public<sup>104</sup>. Advertising promotes the feeling that happiness is associated with the purchase of goods and services. It shifts consumer focus from needs to wants by redefining basic needs as wants. It proposes consumption as a cure for anxiety and fear, and redefines serious social issues as personal problems that can be solved by buying products<sup>105</sup>. The costs of such misinformation are borne by the public, directly in product prices, and indirectly in lost government tax revenues, because advertising expenses receive preferential tax treatment<sup>106</sup>. The public and taxpayers also bear the costs of ill-health that result from consumption of many of these products. Some studies have suggested that advertising is not often cost effective, and



that it contributes to waste, monopoly and higher prices<sup>107</sup>.

Although advertising regulations exist, the focus is on preventing fraud and not on the provision of full product information. As well, Canadian regulations have been weakened in recent years. It used to be that food commercial scripts and preferably story boards had to be reviewed in advance by Industry Canada. Industry Canada had the authority to request modifications and even reject commercials. Advertisers could not make changes without resubmitting. A recommendation for the prevention, treatment or cure of a disease or ailment would not be permitted unless approved by Health Canada. Now, however, responsibility has been shifted to the advertising industry, through Advertising Standards Canada (formerly the Canadian Advertising Foundation), an industry self-regulating body. Advertisers are guided by their industry Code of Ethics which states that “no commercial message containing a claim or endorsement of a food or non-alcoholic beverage to which the Food and Drugs Act and Regulations apply may be broadcast unless the script for the commercial message or endorsement has been approved by the Food and Beverage Clearance Section of Advertising Standards Canada and carries a current script clearance number.”<sup>108</sup> As well, there are no mandatory requirements for review of print advertising. Labels may be voluntarily submitted to the federal government for advice.

When responding to calls to restrict advertising, the advertising industry argues that its influence is overestimated. This would appear to be a disingenuous argument. If advertising is not effective in influencing people's choices, then why would companies spend money on it?

There is evidence that particular forms of advertising influence dietary choices, particularly among young people<sup>109</sup>. One Canadian study showed that when two groups of children are shown different ads - one for unhealthy food, the other for healthy food - and then the children are offered all the foods advertised as part of a meal, those having seen the healthy foods chose the healthy food more frequently than those seeing the unhealthy food ad<sup>110</sup>.

The average child in the USA sees 30,000-40,000 commercials annually, 11,000 of which are for food of low nutritional value,. Commercials for sugary cereals, snacks, drinks and fast food account for nearly half of the ads on children's TV programs, compared to less than 3% of commercials for healthy foods<sup>111</sup>. A Canadian study of Southern Ontario television found that over half of the ads on Saturday morning private broadcasters was for low-nutrient foods<sup>112</sup>.

Cereal manufacturers, in particular, invest heavily in advertising to children. Overall 20-30% of all ads in kids programs are for cereals and one survey of US Saturday morning television carried out by the Centre for Science in the Public Interest (CSPI) found that more than half of the poor nutrition ads were for breakfast cereals. Cereals were also the dominant advertising in one Canadian study of private broadcasters<sup>113</sup>. Cereals may also have the most confusing nutrition claims of any ads. They usually present the cereal as part of a meal and have a quickly presented disclaimer - e.g., part of a nutritious breakfast - that is considered compliance with industry guidelines and meeting the

requirements for providing a nutrition message.

However, it's not a message that means anything to children. Children cannot really recognize what ads are until age 7 or 8, and even then they don't fully understand the selling intent. They usually cannot distinguish between the ad and the program. Consequently, it's easy for children to believe that the cereal is central to the nutrition of a meal rather than all the other foods presented. In fact, studies show that a majority of children do not remember what the other foods in the ad were<sup>114</sup>.

The conclusion for many is that current advertising runs counter to government efforts to promote healthy eating. The failure to restrict advertising, particularly to young people, means that government is ensuring the failure of its own efforts. A coherent health promotion strategy would require that government restrict the ability of the private sector to offer messages that contradict its own.

## **11.0 Actions**

Using the framework outlined in section 7.3, we present summaries of the key actions we believe are necessary to change Canada's consumer food information systems.

### Efficiency (first stage)

1. Make nutrition labels mandatory on all foods (with the exception of fresh fruits and vegetables). Labels should contain information on all nutrients for which the federal government makes health recommendations. The information should be expressed in ways that are meaningful to the average consumer and based on consistent and typical serving sizes.
2. Rewrite certain Food And Drugs Act Regulations so that excess fat production and distribution is discouraged, and consistent labelling of fat content is encouraged:
  - a) Change all prepared meat food definitions so that the product can contain no more than 25% fat by weight.
  - b) Change dairy product food definitions so that maximum fat contents are specified for each type of cheese.
  - c) Change all product labelling systems so that the label contains both the grams of fat and

- the percentage of calories consumed as fat (consistent with Canada's Healthy Eating Guidelines).
- d) Require labelling of all fatty ingredients.
  - e) Require labelling of trans-fatty acids.
  - f) Require labelling of essential fatty acids.
3. Identify clearly all products of controversial technologies. As examples, a private member's bill before the federal House of Commons would amend the Consumer Packaging and Labelling Act preventing sale of a prepackaged food product from an animal to which a prescribed recombinant hormone (genetically engineered) had been administered unless so labelled. Under the Food and Drugs Act, rules regarding food irradiation labelling also provide an indication of what is possible. In this case, wholly irradiated foods (potatoes, onions, wheat, flour, whole wheat flour, whole or ground spices and dehydrated seasoning preparations) must be labelled with both the international irradiation symbol and a written statement such as "irradiated" or "treated with irradiation"<sup>115</sup>.
  4. Use more shelf talkers/ad pads in supermarkets as health promotion vehicles. Ad pads can work well when used to remind consumers of a campaign that they would already be familiar with through another medium (e.g., television, direct mail or outdoor advertising), when the pads are placed next to the product of the campaign and when the message contained on the ad pad (and its "look") is consistent with that of the familiar campaign.
  5. Implement at a national level legislation like the BC Food Choice and Disclosure Act and Quebec's Bill 53, "An Act respecting reserved designations ..." These acts permit the identification of foods according to the farming practices used to grow and raise them (e.g., organic, integrated pest management, no antibiotics). The legislation requires that industry protocols be developed to ensure quality and consistency, and that the products be certified by an accredited certification agency.
  6. Remove ingredient listing exemptions and add the functions that non-nutritive ingredients play in the food product (e.g., preservative, emulsifier, etc.). Make QUID mandatory for all prepackaged products, with percentages of ingredients placed beside the name for any ingredient comprising 5% or more of the product. In addition, when a product has the name of an ingredient in its title or claims to be made by a specific ingredient, e.g., "whole wheat bread", or "made with whole wheat", the percentage of that ingredient should appear close to the main name on the package.
  7. Make freshness dating mandatory on all foods. In the case of unpackaged foods, freshness dates must be provided at retail shelf space.

8. Revise country of origin rules to remove exceptions, include more foods, and make the declarations more easily recognizable.

Substitution (second stage)

1. The Science Council of Canada proposed that advertising of nutritionally-questionable products be curtailed by government intervention<sup>116</sup>. This could be one component of an integrated strategy to promote an optimal diet and eliminate or restrict any advertising that constitutes a barrier to achieving this goal. One possible requirement might be that food products that are clearly undesirable or peripheral to an optimal diet be labelled as such.
2. Tobacco reduction proponents are now arguing for restrictions on tobacco advertising. They include preventing advertising near schools and the elimination of lifestyle ads. Similar strategies could be used for restricting access to and advertising of high fat and highly processed foods. Surveys in Minnesota have found higher levels of consumer willingness to support these kinds of restrictions than was anticipated<sup>117</sup>.
3. Require that Canada's Food Guide be placed on all packaging labels with sufficient size to accommodate it. Weston's Wonder Bread is one of the first Canadian products with such a label.
4. Create a legal framework and supports for local labelling schemes.

Redesign

1. Implement a new system of grading, that accounts for the nutritional value of the product. See Table 3 for an example.
2. Create new systems for adding messages to labels that tell consumers how a food product complies with the government's healthy eating guidelines (e.g., "Eating this product several times a week is consistent with Canada's Guidelines for Healthy Eating" or something to that effect); this might also be achieved with a colour coding system (e.g., different colours for high, medium and low compliance). Such attributable messages have existed on tobacco products for years. Similarly, Bill C-222, currently before the House of Commons, proposes to amend Food and Drug Act regulations with a warning label regarding health problems associated with alcohol consumption.
3. Place full size images of Canada's Food Guide to Healthy Eating servings in the supermarket showing how much one should consume of a product on a daily basis
4. Implement comprehensive product labelling that includes information on environmental and

social justice impacts of production, processing and distribution. An example of such a label is provided in Table 4. Although not easy to create, the federal government's former “Environmentally Friendly Products” program provided a base of experience, in terms of both data and process. Also, several non-profit organizations promoting ethical investment and purchasing have developed systems for rating products<sup>118</sup>. Several other jurisdictions have started this process on a variety of consumer products, using simplified labelling schemes (e.g., Germany and their Blue Angel scheme)<sup>119</sup>.

<b>Table 3</b> <b>EXAMPLE OF CURRENT VS. REDESIGNED GRADING CRITERIA FOR MELONS</b> <b>(Canada #1)</b>	
<b>Current<sup>a</sup></b>	<b>Possible redesign</b>
<ul style="list-style-type: none"> <li>&lt; Fairly clean, well formed, mature, well netted for the variety, sound, of one variety and do not, when in a package, vary more than 1.5 in. in diameter</li> <li>&lt; Free from insects, insect larva, insect injury, disease, decay, sun scald, moisture injury, cracks or hail marks</li> <li>&lt; Free from any injury or defector combination thereof, other than an injury or defect referred to in paragraph (b), that affects the appearance, edibility or shipping quality of the melons</li> </ul>	<ul style="list-style-type: none"> <li>&lt; Produced in accordance with standards of a recognized sustainable agriculture production system</li> <li>&lt; Harvested within 3 days of optimal harvest date and made available to consumers within 3 days of harvest</li> <li>&lt; Free from any injury, defect, insect or disease damage that affects the keeping and nutritional qualities of the melons</li> </ul>

<sup>a</sup> Reg. 332, Farm Products, Grades and Sales Act.(1989)

<b>Table 4</b> <b>HYPOTHETICAL EXAMPLE OF A LABEL</b> <b>FOR AN INSTANT BABY FOOD CEREAL<sup>a</sup></b>		
		<b>Rating</b>
<b>Contents:</b>	Whole wheat	
<b>Production:</b>	Certified organic (biological method)	8 <sup>b</sup>
<b>Processing:</b>	Regular milling: excessive heat No supplements Milling by-products recycled	5 <sup>c</sup> 10 <sup>c</sup> 7 <sup>d</sup>
<b>Product distribution:</b>	Local	8 <sup>e</sup>
<b>Food analysis<sup>f</sup>:</b>	Medium fibre No sodium No sugar Low fat Medium trace minerals Medium important vitamins	6 10 10 8 6 6

<b>Table 4 HYPOTHETICAL EXAMPLE OF A LABEL FOR AN INSTANT BABY FOOD CEREAL<sup>a</sup></b>		
		<b>Rating</b>
<b>Social justice<sup>g</sup>:</b>	Safe working conditions	8
	Wage rate is below industry average	5
	Preferential Purchase of raw materials from the region	8
	Minimal pollution	8
	No donations made to charities	0

<sup>a</sup> This figure is presented for illustrative purposes only. Clearly an enormous amount of work would have to be invested in collecting relevant information, designing appropriate educational materials, indices, labels, administrative procedures and funding strategies. We also recognize the difficulties of developing general numerical scales for such complex subjects.

<sup>b</sup> Using a sustainability scale developed by Hill (1985). Hill, S.B. 1985. Redesigning the food system for sustainability. *Alternatives* 12(3/4):32-36.

<sup>c</sup> Based on Grimme et al. (1986) classification of processing methods and their desirability for the human diet. Grimme, L.H., Altenburger, R., Faust, M. and Prietzel, K. 1986. Towards an ecotrophobiosis: developing a strategy in relation to food and health from life sciences point of view. **FAST Occasional Paper #106**, Commission of the European Communities, Brussels.

<sup>d</sup> Based on a scale - 10 No waste products; 8 By-products reused in same process; 6 By-products recycled in another process; 4 By-products partly recycled; 2 By-products incinerated; 0 By-products are an untreated pollutant (cf. Jackson and Weller, 1983). Jackson, J. and Weller, P. 1983. **Chemical Nightmare**. Waterloo Public Interest Research Group, Waterloo, ON.

<sup>e</sup> Based on scale: 10 Direct; 8 Local; 6 Regional; 4 National; 2 International (cf. Cornucopia Project, 1984; Harnapp, 1988 regarding the economic benefits of different distribution systems). Cornucopia Project. 1984. **Jobs for Americans: the untapped potential for employing more people in America's largest industry**. Cornucopia Project, Emmaus, P.A. Harnapp, V. 1988. Ontario: food self-sufficiency or food dependency? **Presentation to the International Conference on Sustainable Agriculture**, Columbus, OH. September.

<sup>f</sup> Index of compliance with nutritional content of product from ideal production, processing and distribution conditions. These ideals, at a minimum, could be produced from existing nutrient content data.

<sup>g</sup> Cf. Will et al., 1988 [see note 4]; Helson et al. 1992 [see note 5] i.e: distribution conditions. These ideals, at a minimum, could be produced from existing nutrient content data.

## 12.0 Final remarks

We believe that it is important to create a unified scheme of consumer information that helps us achieve public policy objectives in the domains of health, social justice and environmental sustainability. Such a scheme will create the informed market place that businesses and governments say they want. We believe it will create a much more rationale market place, one where food resources are more equitably allocated to serve both individual and community needs.

## Endnotes

1. Unfortunately, the rules are substantially weaker if the irradiated ingredient is less than 10% of the final food (ruling out information on most irradiated spices).
2. Science Council of Canada. 1979. **Canadian food and agriculture: sustainability and self-reliance**. Science Council of Canada, Ottawa.
3. Cf. Jeffery, R.W. et al. 1990. Community attitudes toward public policies to control alcohol, tobacco, and high-fat food consumption. **American J. Preventive Medicine** 6:12-19.
4. Will, R., Marlin, A.T., Corson, B. and Schorsch, J. 1988. **Shopping for a Better World**. Council on Economic Priorities, New York; Pollution Probe. 1989. **The Canadian Green Consumer Guide**. McClelland and Stewart, Toronto.
5. A number of recent books provide analysis of companies and their products. See, for example, Helson, J. et al. 1992. **The Ethical Shopper's Guide to Canadian Supermarket Products**. Broadview Press, Peterborough.
6. Light, L. et al., 1989:449. Eat for health: a nutrition and cancer control supermarket intervention. **Public Health Reports** 104(5):443-450.
7. In Canada's Guide to Food Labelling, produced by the Canadian Food Inspection Agency (CFIA) is the following:  
Guiding Principles for Labelling and Advertising by the Canadian Food and Beverage Industry (March 13, 1996)  
The Canadian food and beverage industry, working in partnership with government, is committed to:
  - maintain truth and integrity in consumer communications
  - S** strive to ensure that product communications comply with existing food regulations and current practices and policies
  - allow consumers to make informed choices by striving to promote messages in advertising and labelling that:
    - reflect consumer requirements for food consistent with current health, safety and nutrition recommendations;
    - reflect current technological advancements
    - do not mislead the consumer;
    - promote fair competition in the marketplace.
8. Norwegian Ministry of Agriculture. 1975:72. **On Norwegian Nutrition and Food Policy**. Report #32 to the Storting, Oslo.
9. In a sense, the food system assumes that foods always have the same nutritional profile as if the only determinant of the nutritional value is the genetic make up of the plant or animal. In fact, a whole host of factors produce major variability in nutritional value of foods. For a review, see Linder, M.C. 1985. Food quality and its determinants from field to table: growing food, its storage and preparation. In: M.C. Linder (ed.). **Nutritional Biochemistry and Metabolism: with clinical applications**. Elsevier, New York. Pp. 239-254.

10. For evidence of this, see the emerging literature on marketing food safety, or the consumer surveys of attitudes towards pesticides and organic foods.
11. Paradoxically, “Agriculture in advanced capitalist countries now exhibits precisely those characteristics which state regulation was intended to attenuate: market instability, low returns on capital, falling farm incomes, and farm failure” (Goodman, D. 1991:60. Some recent tendencies in the industrial reorganization of the agri-food system”. In: Friedland, W.H. et al. (eds.). **Towards a New Political Economy of Agriculture**. Westview Press, Boulder, CO. Pp. 37-64).
12. For a review see MacRae, R.J. et al., 1989. Agricultural Science and Sustainable Agriculture: a review of the existing scientific barriers to sustainable food production and potential solutions. **Biological Agriculture and Horticulture** 6:173-219.
13. Much of this section is taken from Canadian Food Inspection Agency (CFIA). 1998. **Guide to Food Labelling and Advertising**. Supply and Services, Ottawa.
14. CFIA. 1998 [see note 13]. Section 1.3.1.
15. Note that this responsibility is shared with the new Canadian Food Inspection Agency (CFIA) established in 1997. For the first time, all federally mandated food inspection (including fish and seafood) and animal and plant health activities have been brought together into one organization. The creation of the CFIA presents the opportunity to examine Canada’s inspection and quarantine systems within a rapidly changing environment and against a number of emerging pressures. The CFIA’S challenge will be to create more efficient and effective systems while integrating its programs and services with its financial and human resources in a way that will not compromise food safety or impede industry competitiveness in the marketplace.
16. Includes regulations on: Feed Carcass Grading; Veal Carcass Grading; Dairy Products; Egg; Processed Egg; Fresh Fruit and Vegetable; Honey; Maple Products; Processed Products; Processed Poultry.
17. CFIA. 1998 [see note 13]. Introduction (1.1).
18. CFIA. 1998 [see note 13]. Introduction (1.1).
19. A review of federal health promotion activities is currently underway, called HPB (Health Protection Branch) Transition.
20. A number of food business marketing representatives interviewed in the course of preparing this report commented on this.
21. A conclusion of a Prevention Magazine and Food Marketing Institute survey, reported in: Consumers see nutrition information as unreliable. **Consumer Nutrition Institute** August 23/96. P. 3.



22. Note that the federal and provincial ministers of agriculture have made a commitment to reducing consumer confusion with regard to source of product.
23. US Surgeon General. 1988. **Report on Nutrition and Health**. US Dept. Health and Human Services, Washington.
24. From our interviews with marketing representatives.
25. See for example the annual surveys of the Grocery Products Manufacturing Council (later the Food and Consumer Products Manufacturing Council). Note that much private polling by companies is structured in a way that concerns about issues other than price, nutrition, safety and convenience would not come up (Deb Moffett, personal communication).
26. Many health and environment oriented products have failed in the market place, and many marketing representatives now believe that there is a kind of consumer fatigue about such issues which may account for this failure. It is also possible that such perceived fatigue is really about the failure to have a coherent consumer information systems.
27. National Institute of Nutrition. 1994. **Tracking Nutrition Trends, 1989-1994**. NIN, Ottawa, April; and **Tracking Nutrition Trends, 1989-1997**.
28. NIN. 1997 [see note 27].
29. FCPMC. 1996. **Consumerline Canada**. FCPMC, Toronto.
30. NIN [ see note 27].
31. GPMC. 1994, **Consumerline Canada**. GPMC; Toronto, Bertin, O. 1989. Food industry alters recipes for health food fad diets. **Globe and Mail**, 21 August.
32. FCPMC. 1996 [see note 29].
33. Guberman, C. 1995. Sowing the Seeds of Sustainability: planning for self-reliance. In: M.Eichler (ed.). **Change of Plans: towards a non-sexist sustainable city**. Garamond, Toronto. Pp. 111-130.
34. St. Jacques, H. 1994. **Field to Table Social Marketing Program**. Informa, Toronto.
35. NIN [see note 27].
36. FCPMC. 1996 [see note 29].
37. See, for example, Sachs, C. et. al. 1987. Consumer pesticide concerns: a 1965-1984 comparison. **J. Consumer Affairs**. 21:96-107; Public Voice for Food and Health Policy (PVFHP). 1993. **What Americans Think About Agrochemicals: a nationwide survey on health, environment and public policy**. PVFHP, Washington. April; O'Beirne, D. 1988. A corresponding viewpoint: some food safety and quality issues in the European community. In:

K.L. Clancy (ed.). **Consumer Demands in the Market Place**. Resources for the Future, Washington. Pp. 177-187.

38. Conklin, N.C. and Mischen, P.A. (undated). **Quality Standards and Pesticide Use: a review of research**. Prepared for the Agricultural Marketing Service, USDA. Arizona State University, Tempe. See also studies cited by Eom, Y.S. 1993. Self-protection, risk information and the ex ante values of food safety and nutrition. In: J. Carswell et al. (eds.). **Valuing Food Safety and Nutrition**. Conference organized by the NE-165 Regional Research Project: "Private Strategies, Public Policies and Food System Performance". June 2-4, 1993. Alexandria, VI.

39. Collins et al. 1992. Consumer attitudes on pesticide treatment histories of fresh produce. **J. Sustainable Agriculture** 3:81-98.

40. Watkins, T.R. 1983. The new consumers: food habits and the basis of choice. In: D. Knorr (ed.) **Sustainable Food Systems**. AVI Publishing, Westport, CT. Pp. 48-74; Baseline Market Research. 1988. **Organic Agriculture Study**. A report for the Agricultural Development Branch, Agriculture Canada. Baseline Market Research, Fredericton, NB; Jolly, D.A. et al., 1989. Organic foods: consumer attitudes and use. **Food Technology** Nov.:60-66; Anon. 1995. Tracking nutrition trends. **Imprint** Sept. 95.

41. Data from the Organic Trade Association, Greenfield MA USA, reported in **The Natural Food Merchandiser** June 1995.

42. Anon. 1995. Danish organic market sizzles. **New Farmer and Grower** 47:6.

43. Tate, W.B. 1994. The development of the organic industry and market: an international perspective. N.H. Lampkin and S. Padel (eds.). **The Economics of Organic Farming: an international perspective**. CAB International, Wallingford, Oxon, UK. Pp. 11-26.

44. Baillieux, P. and Scharpe, A. 1994. **Organic Farming**. Commission of the European Communities. Office for Official Publications of the European Communities, Luxembourg.

45. Motavalli, J. 1994. Agrarian Nation: can Iceland become the first all-organic country? **E Magazine** 5(6):25-27; For a review of both the challenges and opportunities of this conversion process, see Gunnarsson, G. 1995. Northern tales. **New Farmer and Grower** 46 (spring):22-24.

46. Rosset, P. and Benjamim, M. (ed.). 1995. **The Greening of the Revolution: Cuba's experiment with organic agriculture**. Institute for Food and Development Policy, Oakland, CA.

47. Much of this section is based on phone interviews carried out between November 1996 and January 1997 with experienced food business marketing representatives.

48. By "actionable" marketers mean finding a balance between meeting product target profit margins and meeting consumer demands with products differentiated from those of the competition.

49. United Nations Resolution Adopted by the General Assembly, Annex Guidelines for Consumer Protection, April 16, 1985, at II. (C).

50. The Codex Alimentarius Commission is a subsidiary body of the Food and Agriculture Organization of the UN and World health Organization and is the lead agency for setting international food safety and quality standards.

51. The 21st Codex Commission meeting in 1995 adopted the “Statements of Principles Concerning the Role of Science in the Codex Decision-making Process and the Extent to Which Other Factors are Taken into Account”.

52. Green, L.W. et al. 1996. Ecological foundations of health promotion. **American J. Health Promotion** 10:270-281.

53. Thompson, P. 1993. Food labels and biotechnology: the ethics of safety and consent. Centre for Biotechnology Policy and Ethics, Texas A&M University, College Park, Texas.

54. Wallack, L. 1990:144. Two approaches to health promotion in the mass media. **World Health Forum** 11:143-164.

55. Wallack. 1990:150 [see note 54].

56. Hill, S.B. 1985. Redesigning the food system for sustainability. **Alternatives** 12(3/4):32-36; MacRae, R.J., Hill, S.B., Henning, J. and Bentley, A.J. 1990. Policies, programs and regulations to support the transition to sustainable agriculture in Canada. **American Journal of Alternative Agriculture** 5(2):76-92; MacRae, R.J., J. Henning and S.B. Hill. 1993. Strategies to overcome barriers to the development of sustainable agriculture in Canada: the role of agribusiness. **J. Agricultural & Environmental Ethics** 6:21-53.

57. CFIA 1998 [see note 13]. Preface.

58. Much of this section is based on analysis provided by the Center for Science in the Public Interest (CSPI) of Washington, DC. CSPI 1997. **Nutrition Labelling: A Call for Reform**, CSPI, Washington.

59. Food and Drug Administration. 1991. Regulatory Impact Analysis of the Proposed Rules to Amend the Food Labelling Regulations. **Federal Register** 56(229):60856-60873.

60. There are a few minor exceptions to this rule. When a claim is made for a fatty acid or cholesterol, total fat plus polyunsaturates, monounsaturates, saturates and cholesterol must be listed. For potassium or sodium claims, both must be listed. Foods labelled as for “special dietary uses”, “carbohydrate reduced”, “sugar-free”, “low sodium” and their synonyms must list energy, protein, fat and carbohydrate content.

61. Grier, K. 1990. Canada's new nutrition labelling regulations. **PDR Notes** 64:1-2.

62. CFIA. 1998 [see note 13].

63. CSPI provides the example of Mr. Christie's Cheddar Flings, which uses a serving size of about 1/2 of what is realistic. Consequently, the product appears to be much lower in fat, saturated fat, and cholesterol than it really is. Note that the federal government proposes to change the range of suggested serving sizes to correct this problem.

64. Note that some other, non-fatty ingredients are also on this list.

65. One metaphor that has been used to describe this twisting is to imagine that the top half of your body is twisted to that your back is now facing forward. See Erasmus, U. 1993. **Fats that Heal, Fats that Kill**. Alive Books, Vancouver.

66. Cf. Holub, B. 1991. Cholesterol-free foods: where's the trans? **Canadian Medical Association** 144:330; Erasmus. 1993 [see note 65]; Enig, M. et al. 1990. Isomeric trans fatty acids in the U.S. diet. **J. Am. Coll. Nutr.** 9:471-486; Willet, W.C. et al. 1993. Intake of trans fatty acids and risk of coronary heart disease among women. **The Lancet** 341:581-585.

67. Willett et al. 1993 [see note 66].

68. Zorc, A. 1996. Nutrition experts divided over Trans fats. **Community Nutrition Institute** 26 (32, Aug. 23/96):4-5.

69. See Anon. 1995. The Netherlands reduces Trans Fatty Acids in foods. **Nutrition Week** 25(45):3; and **Lancet** 346:1245-46 (November 11, 1995).

70. From our interviews with firm marketing specialists.

71. Much of this section is based on work done by the Center for Science in the Public Interest of Washington, DC. [See note 58].

72. In some cases this is a problem, but compared to the US system, fewer potentially misleading claims are allowed.

73. CFIA. 1998 [see note 13].

74. Center for Science in the Public Interest (CSPI). 1998. **Food Labelling for the 21<sup>st</sup> Century: a global agenda for action**. CSPI, Washington. May.

75. CSPI. 1998 [see note 74].

76. CSPI. 1998 [see note 74].

77. CFIA. 1998 [see note 13].

78. FCPMC. 1996 [see note 29].

79. See, for example, Wilkins, J. 1995. Seasonal and local diets: consumers' role in achieving a sustainable food system. **Research in Rural Sociology and Development** 6:149-166. Note that Agriculture and Agri-food Canada has still not recognized this potential, as exhibited by their failure to discuss the role of consumers in their recent strategy document (1996) **Strategy for Environmentally Sustainable Agriculture and Agri-food Development in Canada**.
80. Specified in the Consumer Packaging and Labelling Regulations.
81. The National Cattlemen's Association (NCA) pays for beef grading, not the federal government. NCA hires an inspector to enforce federal standards.
82. The scheme is currently only being implemented in Alberta because there are very few large plants in Ontario. There is only one large plant in Ontario for federally inspected lamb. All the others have provincially inspected lamb.
83. Poultry and turkey have been the only animals with minimum fat requirements for grading (Personal communication, Dave McGonegal, Agriculture Canada Market Industry Branch, Sept. 95).
84. See Clancy, K.L. 1986. The role of sustainable agriculture in improving the safety and quality of the food supply. **American J. Alternative Agriculture** 1:11-17; Jolly et al. 1989 [see note 40].
85. Pimentel et al. 1977. Pesticides, insects in food, and cosmetic standards. **BioScience** 27:178-185; Feenstra, G.W. 1988. **Who chooses your food?: a study of the effects of cosmetic standards on the quality of produce**. California Public Interest Research Group, Los Angeles.
86. Bunn, D. et al. 1990. Consumer acceptance of cosmetically imperfect produce. **J. Consumer Affairs** 24:268-279; Collins et al. 1992. [see note 39]; Conklin and Mischen. 1992 [see note 38].
87. Rosenblum, G. 1991. **On the Way to Market: roadblocks to reducing pesticide use on produce**. Public Voice for Food and Health Policy, Washington.
88. Arax, M. and Brokaw, J. 1997. No way around Roundup: Monsanto's bioengineered seeds are designed to require more of the company's herbicide. **Texas InfiNet** Jan. 30/97.
89. For example, Biotechnology Strategies and Coordination Office. 1997. Information letter: summary of comments on the Communique "Labelling of Novel Foods Derived Through Genetic Engineering". Canadian Food Inspection Agency, Nepean, ON.
90. Brief to Codex Alimentarius Committee on Food Labelling: Comments on Canada's position. Submitted by the British Columbia Biotechnology Circle, October 1, 1997.
91. Ontario Task Force on the Primary Prevention of Cancer. 1995. **Recommendations for the Primary Prevention of Cancer**. Ontario Ministry of Health, Toronto.
92. Repetto, R. and Baliga, S.S. 1996. **Pesticides and the Immune System: the public health risks**. World Resources Institute, Washington.

93. Colborn, T. et al., 1996. **Our Stolen Future**. Dutton, New York.
94. Wiles, R. et al., 1998. **Overexposed: organophosphate pesticides in children's foods**. Environmental Working Group, Washington: National Research Council. 1993. **Pesticides in the Diets of Infants and Children** National Academy Press, Washington.
95. Wiles, R. and Campbell, C. 1993. **Pesticides in Children's Food**. Environmental Working Group, Washington, DC.
96. Wiles et al. 1998 [see note 96].
97. **Report of the Joint Committee on the Use of Antibiotics in Animal Husbandry and Veterinary Medicine**, 1969; **Food and Drug Administration Task Force on the Use of Antibiotics in Animal Feeds**, 1972.
98. Cohen, M.L. and Tauxe, R.V. 1986. Drug-resistant Salmonella in the United States: an epidemiologic perspective. **Science** 234 (Nov 21):964- 969.
99. Addison, J.B. 1984. Antibiotics in sediments and run-off waters from feedlots. **Residue Reviews** 92:1-28.
100. Nolan, L.K. et al. 1991. Comparison of phenotypic characteristics of Salmonella spp isolated from healthy and ill (Infected ) chickens. **American J. Veterinary Research** 52(9):1512-1517.
101. Personal communication, Dr. Cornelius Poppe, Agriculture and Agrifood Canada, Sept. 20, 1995; Poppe C. et al. 1995. Drug resistance and biochemical characteristics of Salmonella from turkeys. **Canadian J. Veterinary Research** 59:241-248.
102. See, for example, Light et al. 1989 [see note 6].
103. By several senior marketing consultants we interviewed.
104. Singer, B.D. 1986. **Advertising and Society**. Addison-Wesley, Don Mills, ON.
105. Wallack, L. and Montgomery, K. 1992. Advertising for all by the year 2000: public health implications for less developed countries. **J. Public Health Policy** 13(2):204-223.
106. McQuaig, L. 1987. **Behind Closed Doors: how the rich won control of Canada's tax system - and ended up richer**. Viking Press, Markham, ON.
107. Singer. 1986:48-62 [see note 104].
108. CFIA. 1998 [see note 13]. Section 1.4.1.
109. Taras, H.L. et al. 1989. Television's influence on children's diet and physical activity. **Develop Behav Paediat** 10:176-80. Note that empirical evidence of the link between advertising, values

formation and modification and behavioural influence is a seriously underresearched area, in part because the demands of conducting this research are both difficult to fund and confront many of the value assumptions of the scientific enterprise itself. “Failure to conduct this research would suggest that academics are servants of marketing practice rather than scholars of it.” (Pollay, R.W. 1986:34. The distorted mirror: reflections on the unintended consequences of advertising. **J. Marketing** 50:18-36).

110. Jacobsen, M. and Maxwell, B. 1994. **What Are We Feeding Our Kids?** Workman Publishing, New York.

111. Jacobsen and Maxwell. 1994 [see note 110].

112. Ostbye, T. et al. 1993. Food and nutrition in Canadian “prime time” television commercials. **Canadian J. Public Health** 84:370-374.

113. Ostbye et al. 1993 [see note 112].

114. Jacobsen and Maxwell. 1994 [see note 110].

115. Unfortunately, the rules are substantially weaker if the irradiated ingredient is less than 10% of the final food (ruling out information on most irradiated spices).

116. Science Council of Canada. 1979 [see note 2].

117. Jeffery et al. 1990 [see note 3]; Schmid, T.L. et al. 1989. Public support for policy initiatives regulating high-fat food use in Minnesota: a multicomunity study. **Preventive Medicine** 18:791-805.

118. Will et al., 1988; Pollution Probe, 1989 [see note 4].

119. A number of recent books provide analysis of companies and their products. See, for example, Helson et al. 1992 [see note 5].