

CANADIAN FOOD TRENDS TO 2020 A LONG RANGE CONSUMER OUTLOOK

PREPARED FOR
AGRICULTURE AND AGRI-FOOD CANADA
OTTAWA, ONTARIO

PREPARED BY
SERECON MANAGEMENT CONSULTING INC.
EDMONTON, ALBERTA

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INTRODUCTION AND OVERVIEW

This study looks ahead at Canadian food and beverage consumption to the year 2020. It provides valuable insight into our evolving consumer environment as well as the developing opportunities for the domestic agriculture and agri-food sector. This report combines factors and issues that are expected to drive consumer attitudes and perceptions using consumption forecasts based on Canadian statistical history. It suggests what food and beverage products consumers may want to bring home to their tables in 2020.

Sources for the data and information analyzed in this study include:

- * Statistics Canada, particularly for historical food consumption, disappearance and expenditure data as well as historical population growth and projections;
- * Agriculture and Agri Food Canada;
- * Health Canada;
- * The Canadian Food Inspection Agency;
- * Publicly commissioned or omnibus surveys on consumer behaviours, attitudes and awareness;
- * Government agencies associated with some of the provinces as well as the United States; and
- * A review of the media, trade journals, and relevant literature on food trends and consumer issues.

Top Trends to 2020

1. *Aging Canadians*

The Canadian population will continue to age, with more seniors than ever before and actually fewer children projected in real numbers in 2020 than there were in 2004. This finding will have implications for the type and quantity of food demanded as well as where it will be consumed.

2. *An Evolving Society*

Other socio-demographic drivers that will affect food choices include the shrinking household size, participation in the workforce, globalization,

environmental awareness, and media fragmentation. Brands will become less of a status symbol and more an expression of individualization.

3. *Changing Meal Patterns*

Consumers will become even more disconnected from food preparation. Shopping and eating habits will be sporadic; meal planning cycles will be shorter, snacking will replace courses as well as whole meals, and food will become even more portable. These trends will have implications for both food and package waste.

4. *Shifting Expenditures*

The move to spending less of our disposable income on food will continue. Retail food purchases will still dominate, while food service will see only modest growth in expenditures. The real shift will be in prepared meals and take-outs.

5. *Food for Health*

The most significant health driver will be obesity, with its associated medical conditions, such as cardiovascular disease and diabetes. One in two adults and one in three children were considered overweight or obese in 2001. The move to adopt healthier lifestyles will be slow. Adults faced with serious health concerns related to their weight may be motivated to change their diet and activity patterns, but it may take a concerted effort to educate this, and the next generation of children, in order to achieve significant lifestyle and diet improvements within the population.

6. *The Educated Consumer... Fads or Trends?*

By raising a generation of label readers, we will become more conscious of nutrition and food ingredients than ever before, with a focus on zero trans-fats, low sodium, healthy/high fibre carbohydrates (the low carb fad is near dead), reduced sugar, allergen identification, fortification, and health claims. Foods with a function beyond just energy will be in demand,

as consumers seek to manage their health and prevent disease.

7. *The New Face of Canada*

Immigration will be driven from regions off the Pacific Ocean, especially in larger urban centers where visible minorities will make up to 50% of the population, and the British and European roots of longer term residents diffuses. Hispanic influences from the south will also be felt. The resulting food trends; diversification, fusion and blended cuisines, will mean a host of unfamiliar food ingredients, cooking methods and presentation styles. Travel, job mobility and religious influences will also shape the ethnic mix of the new Canadian cuisine.

8. *No Trade-off for Convenience*

Food marketers are forever trying to find the magic balance between taste, quality, nutrition, convenience, variety, and value for the dollar. The fact is, consumers want it all. The next wave of product differentiation will be to provide fresher, more nutritious, great tasting and/or ethnic foods in the most convenient forms possible.

9. *Veggies Anyone?*

True vegetarianism may not grow dramatically, but consumption of meatless meals will continue to increase. This will be fuelled by perceptions of healthfulness, an emphasis on quick-to-prepare meals, and ethnic food options, among other drivers.

10. *Organic Foods*

Organics, at a modest price premium, will continue to rise, especially as quality and availability matches that of conventionally produced foods.

11. *Small Indulgences*

Gourmet food represents a small indulgence, an affordable luxury, and a reward. Adult Canadians will embrace gourmet foods and boutique brands. Slow foods, high quality, smaller portions, and nutritious foods will gradually replace demand for fast, big and cheap foods.

12. *Food Safety and Production Issues*

Consumer confidence in foods tends to shift with the news story of the day. At the time of writing, trans-fats and animal diseases were issues at the forefront of consumer minds. Others included: “safe” food production (including genetically engineered foods), food borne illness, additives, contaminants, tampering and bioterrorism, the ethical treatment of animals, country of origin and traceability, and to a lesser extent, acrylamides and irradiation. Lack of consumer confidence, for which ever reason, will lead to avoidance of the offending food.

Consumer Directed Interventions

A host of consumer directed interventions are available to industry and government to address food and related health and wellness issues. Examples include communications, advertising or “junk” food bans directed to children, mandatory nutritional and physical education in schools, more aggressive, regulated labelling (i.e. health claims, warnings), food production certification programs, increased food inspection, “fat” taxes, or tax credits, and outright bans or mandated reductions of harmful food ingredients.

Forecasting Food Consumption

A classical economic modelling approach, accounting for both predicted trends and historical consumption patterns, has been used to capture the relative change in per-capita consumption of selected foods representing each of the major food groups to the year 2020.

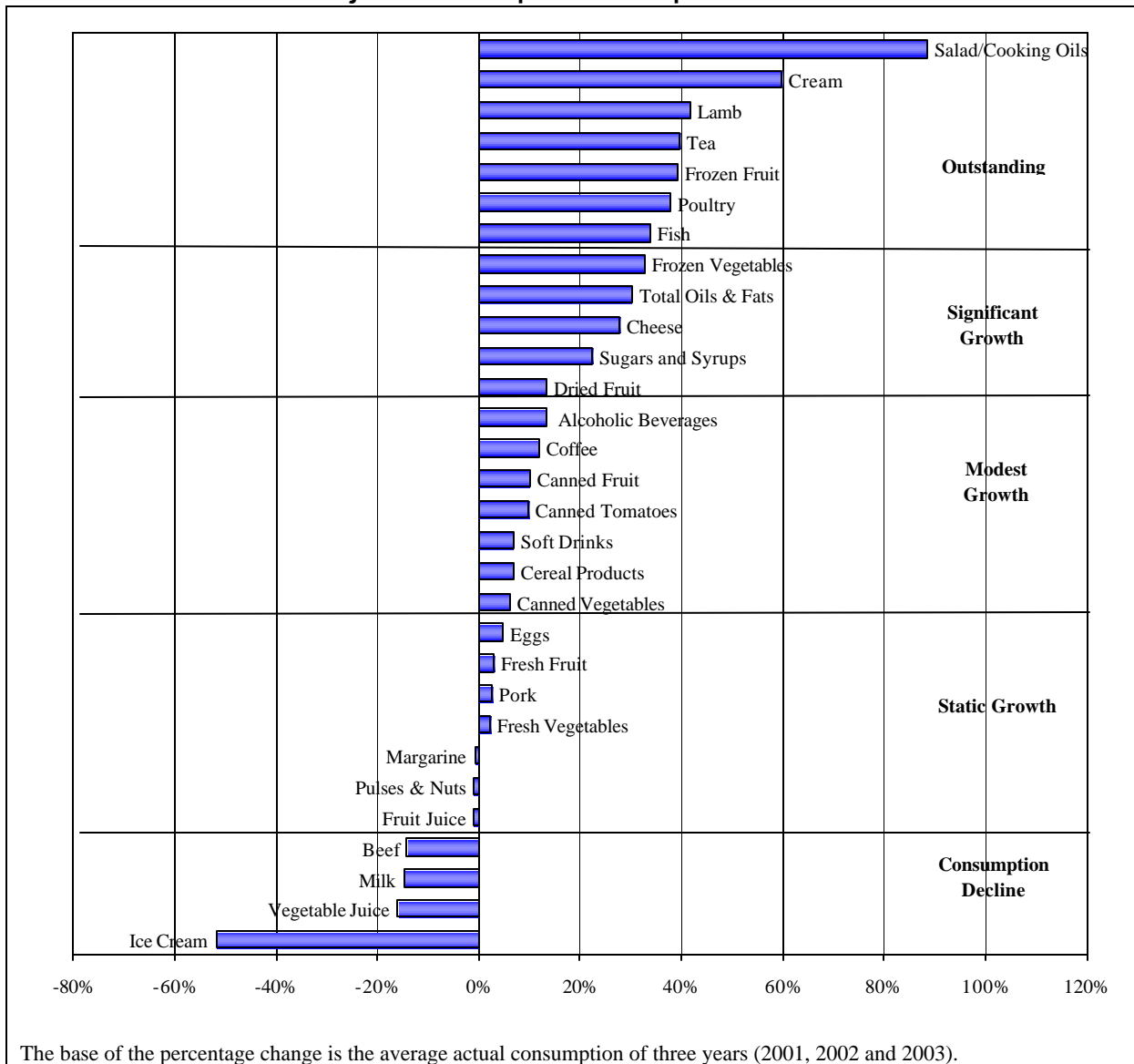
There are several limitations to this analysis and caution must be used in the interpretation of the results. First, not all food items and categories have been included in this food trends analysis. For example, in the dairy category, products such as fluid milk, cheese, ice cream and cream were forecast, but yogurt was not, because the time series data only reflected a very recent increase in consumption. Further, the food consumption and disappearance data, as well as population, median age and immigration projections as compiled by Statistics Canada are statistical estimates, and as is indicated by Statistics Canada, they need to be used with caution. From time to time, Statistics Canada revises its previously reported data and projections. This analysis is largely based on consumption data issued

by Statistics Canada in November 2004, up to including 2003.

What can be observed is that overall consumption of many foods appears to be continuing on an upward trend. If health and wellness interventions are

successful, in combination with the will of Canadians to improve their lifestyle and diets, some of the projections identified in the following figure, may in fact be over stated.

Projected Per-Capita Consumption to 2020



It should be noted that the consumption volumes of some of these items are small, so even a large percentage increase forecast in per-capita consumption may not mean a huge increase in real volume.

Although this analysis has been primarily based on a historical review and projection of a selected number of individual food items, a partial summation, illustrated in the table below, has been undertaken to estimate the total consumption by major food category or group.

The overall consumption of these foods is projected to increase from the current (average of 2001, 2002 and 2003 consumption) 400 kilograms per person, to about 424 kilograms (excluding eggs and juices) for a 6% increase in volume. This rate of growth compares to a 10% increase in consumption for the 19 year historical period (1984-2003).

On the one hand, it may be argued that many of the food consumption items appear to be increasing, and

that consumers can only biologically consume up to a fixed quantity. Balanced against this argument, is the reality that there is likely a growing divergence between food consumption and disappearance, reflected by greater waste. It has been argued that food in Canada is “cheap”; over time we are spending less of our disposable income on food. This cost issue, along with industry’s focus on increasing volumes, and profitability, has led to increased volume of purchases, if not real consumption.

In a sense the food industry’s business push for expansion is at odds with health interest groups and government policy regarding obesity management and health. The tug of war between consumption and moderation will likely continue to be battled out by the food marketers and those communicating healthy eating and moderation.

A brief discussion of the trends and drivers by food category follows.

Per-Capita Historical and Projected Food Consumption Volumes										
	1984	1989	1994	1999	2003	2005	2010	2015	2020	% Change*
Red Meat	29.96	28.44	26.59	27.90	25.59	26.10	25.54	24.88	24.64	-6%
Poultry and Fish	15.60	17.41	17.70	19.78	20.44	21.68	23.80	25.98	28.13	36%
Total Meat	45.56	45.85	44.29	47.68	46.03	47.78	49.35	50.86	52.77	13%
Selected Dairy	92.01	91.24	88.28	85.74	84.17	83.30	80.85	80.19	77.38	-9%
Fruits	41.15	40.24	43.60	42.51	45.80	44.63	45.36	46.05	46.65	5%
Vegetables	81.76	83.45	93.99	93.33	93.18	96.07	97.68	98.51	99.15	4%
Cereal Products	49.76	53.63	56.71	64.89	63.89	67.48	68.14	68.98	69.43	7%
Pulses and Nuts	6.54	6.68	8.78	8.92	8.51	9.02	8.97	8.84	8.61	-1%
Sugars & Syrups	30.98	27.90	31.88	29.00	35.70	33.26	36.14	38.82	41.38	22%
Total Fats & Oils	16.29	17.03	18.49	22.17	22.44	23.48	25.31	26.98	28.70	29%
Sub-Total (kgs)	364.05	366.02	386.02	394.24	399.72	405.02	411.80	419.23	424.07	6%
Eggs (dozens)	14.16	12.70	12.06	12.66	12.97	13.04	13.49	12.82	13.59	5%
Vegetable & Fruit										
Juices (litres)	24.10	22.53	24.57	24.18	25.60	24.98	24.92	24.87	24.82	-2%
Notes										
Red Meat includes Beef, Pork and Lamb (excludes other specialty meats)										
Total Meat includes Red Meat as defined above, Poultry and Fish										
Selected Dairy includes Fluid milk, Cheese, Ice Cream and Cream (excluding Butter, Powder Milk, Yogurt, Ice milk and Sherbet)										
Other beverages forecast in this study (soft drinks, alcoholic drinks, coffee and tea) are not included in this table, and bottled water consumption was not analyzed or projected.										
* The base of the percentage change is the average of three years (2001, 2002 and 2003) Compared to the year 2020										

The Meat Group

Total consumption of meats and meat products are projected to increase by 13%. This reflects the net impact of an anticipated 6% drop in consumption of red meats, balanced against a 36% growth in poultry and fish meats.

Per-capita consumption of poultry and fish will increase in response to the trend toward healthy eating and immigration. These products are versatile and quick to prepare at home and are increasingly available in home meal replacement options and food service.

Of the traditional red meats, pork will remain fairly stable, while beef will continue a downward trend. This shift is due to substitution with white meats and meatless alternatives, smaller portion sizes, and as well, the influence of Asian immigration to Canada.

Lamb is projected to continue on an upward trend, driven by immigration, the penetration of ethnic foods and variety seeking in the general population. By inference, goat meat, bison and game are likely to increase, the latter supported by food service sales and the leanness of some game meats

A trend to watch within the meat group lies with easier, faster cooking, and more convenient options, possibly suited to an array of counter-top appliances. Meats of all types used in heat-and-serve prepared meals and pick-up will respond to shorter meal planning cycles. These dishes, along with fast-food and table food service, will increasingly have an ethnic focus. Along this vein, some opportunities exist for Halal and Kosher preparation.

Smaller and single serve portions may become the norm, with meat no longer considered the “main event”, but rather an accompaniment. Correspondingly, high value quality cuts of red meat, uncommon fish and specialty meats will reposition the category as an indulgence product. Promotion of the health benefits of each meat type, as well as consumer education regarding cooking methods and recipe styles will likely continue. It is expected that celebrity chefs, food writers, cooking schools and the Internet will have an increasing impact on meat choices.

Within the red meat sub-category, opportunities exist for seniors’ institutional food service. The ballooning generation of seniors has traditionally represented

heavier beef eaters who will continue to benefit nutritionally from this high iron protein source.

The Dairy and Egg Group

Consumption of the selected dairy products forecast in this study is expected to decline by 9%.

Given the aging population, the projection of fewer children, and the influence of immigration, milk consumption is projected to continue to decline as other beverages, including drinkable yogurt and soy drinks are adopted. The many calcium options, including fortified juices and processed foods, awareness of some vegetables as a calcium source, as well as the availability of calcium supplements, will continue to erode the market for milk. This decline may be mitigated by youth-targeted flavoured milk, supported with branded designs, creative bottling, and availability in vending machines, school cafeterias and convenience stores, particularly as alternatives to soft drinks in schools are encouraged. Niche opportunities are developing for fortification and organic milk, both features that are of growing value to expectant and young mothers. Opportunities for milk also rest with osteoporosis prevention, critical for an aging population.

Cream consumption is up, paralleling the growth in specialty coffees, appealing to an older and more sophisticated market. However, true ice cream will continue to decline as consumers seek alternative or lower fat “treats”, such as frozen yogurt, ice-milk, and non-dairy frozen products.

Increases in both eggs (by 5%) and cheese are forecast, to satisfy the need for convenient, non-meat alternatives. Cheese is enjoying growth as a lunch item, as an essential ingredient in ethnic dishes, as well as an indulgent specialty snack product complementing wine. Eggs are experiencing a resurgence as the cholesterol link is diffused and options such as omega-3, liquid eggs and whites-only are offered. Eggs hold potential as an easy-to-digest, nutrient dense food for seniors.

While not forecast in this analysis, yogurt experienced high growth during the early part of the 21st century, driven by such factors as recognition of yogurt as a functional food, ethnic influences, convenience packaging, age specific targeting, low fat, and flavour options.

The Fruit and Vegetable Group

Overall fruit and vegetable consumption is expected to increase by 5 and 4 % respectively. Fresh fruit and vegetables, already a very large category, are forecast to increase marginally, while greater growth in the smaller processed segment is anticipated.

This growth is fuelled by the focus on healthier eating and the recognition of many fruits and vegetables as a high fibre natural vitamin source, or functional food with a role in disease prevention. The more year-round availability of options such as organics and exotics, and acceptance of fruit and vegetables as a convenient snack product also support growth in this category.

Fresh produce conveys a quality image and fresh-cut, bagged salads or take out options address consumer demand for convenience. Fresh herbs and products like mushrooms respond to ethnic influences.

Frozen produce offers benefits over fresh in terms of controlled refrigerator waste due to less spoilage, sporadic meal planning, and “guilt” buying. Portions can also be controlled. The quality and variety of frozen produce has improved, as has its incorporation as an ingredient in other dishes. For example, frozen fruit may be used as an ingredient in products like beverages by fast food establishments.

Dried fruits and fruit cups available in on-the-go packaging are ideal snacks and arguably reduce “lunch-bag” waste.

Only fruit and vegetable juices are projected to decline (2%) within this group, largely due to fewer children and the adoption of beverage substitutes. To date, the juice industry has responded with juice blends, calcium, vitamin or omega-3 fortification, and various package sizes of shelf-stable options (cans, tetra pacs, and bottles), as well as chilled, and fresh squeezed products.

Trends to watch in the produce category include more of the same:

- * Continued convenience options and snack products, including fresh-cut, value-added dips and bagged produce;
- * Expanded distribution of snack products for vending machines, schools, concessions, airlines and fast-food outlets;

- * Frozen produce options with particular attention to maintaining quality and crispness and promoting frozen as an ingredient base for home use and food service;
- * Imported “exotics” to meet ethnic demand;
- * Organic;
- * Research, regulations, and awareness of health claims;
- * Fresh/local branding and private label; and
- * Lower sodium vegetable juices or lower sugar fruit juices.

Cereals and Cereal Products

Cereals are also forecast to continue to grow in per-capita consumption. It is anticipated that whole grains, higher fibre and acceptance of wheat alternatives such as barley, flax, wild rice, buckwheat, kasha, will help to fuel this growth, particularly as comparative functional health benefits are recognized. Organic grains are also entering the market. Fresh, artisan, variety breads, cereal bars, and healthier snack products are some of the more popular forms.

Pulses and Nuts

Consumption of pulses and nuts, a small category has been somewhat volatile in the past, and is projected to remain fairly flat. Tree nuts have been trending upward but peanuts, in the form of peanut butter, counter this growth due to an aging population and allergy avoidance. Ethnic influences and adoption of meatless dishes will likely increase consumption of pulses, particularly chick peas and lentils. Opportunities exist for use of pulses and nuts in convenient, processed forms such as prepared traditional ethnic dishes as well as food service.

Sugars and Syrups

This category is forecast to continue on an upward trend with an increase of 22% over current levels. A major use of sweeteners, in the form of high fructose corn syrup, is in soft drinks. It should be noted that this projection is based on historical trends and any impact of anti-obesity or diabetes awareness initiatives has not been anticipated in the forecast. Possible impacts may be reflected in increasing use of artificial sweeteners as well as overall declines in consumption of sugar-containing products.

Fats and Oils

As with sugars and syrups, the oils and fats category is projected to increase but at a slowing rate. Recent trends away from hydrogenated and trans-fats have resulted in a shift from margarine and solid shortening (typically used in deep frying) to healthier alternatives such as canola and olive oil, the latter popularized by Mediterranean cuisine. Butter, repositioned as a natural product, has rebounded somewhat. The impact of anti-obesity initiatives or lower fat options available at fast-food establishments are yet to be evidenced in consumer consumption behaviour, and are therefore not reflected in the projections.

Trans-fats have been linked to heart disease. Acrylamides, produced by deep fat frying at high temperatures, have been linked to cancer. Awareness of these risks may draw attention to the fat issue (trans-fat labelling will be required by the end of 2005), possibly leading to overall fat reduction or avoidance. If trans-fat free products compromise taste, this may in turn cause a reduction in overall fats and oils consumption. Opportunities for this category include further penetration of flavoured and specialty oils marketed as indulgences for particular uses. Technology may also lead to "calorie reduced" or fat substitute products.

Beverages

With the exception of milk and fruit/vegetable juices as already noted, beverages are on the upswing. Coffee has enjoyed considerable growth, fuelled by availability through coffee outlets and coffee as a social or convenient on-the-go energy boost. Tea will enjoy even faster growth over the next decade and a half as consumers seek variety in hot beverages and accept tea for its functional benefits.

Of the beverage drink category, soft drinks are now the single greatest beverage of choice in Canada, and are predicted to remain so. Between 1998 and 2003 a slight downward trend was evidenced, however, it is too soon to tell if this trend will be sustained or even accelerate. The forecast, based on the 20 year time-series, shows a moderate increase of another 7% until 2020. Soft drink demand has been subject to cannibalization from other beverages including bottled water and the effects of an aging population. The industry is responding aggressively with flavour, size and sweetener options.

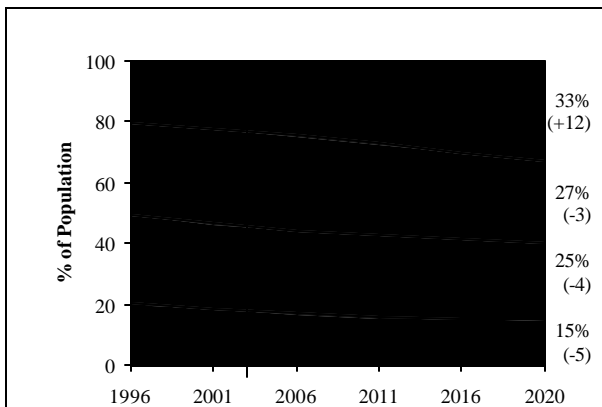
Alcohol use declined steadily until the 1990's, then levelled off, but is now showing some recovery, especially with wines. Shifting demographics, drinking and driving awareness, and coffee bar options have all played a role in changing alcohol consumption patterns.

Looking ahead, the beverage market will continue to be driven by branding and image, while the market becomes more and more fragmented. The big trend to watch will be beverages with added functions like energy boosters, herbal infusions, vitamin and mineral fortified drinks, beverages as a nutritional supplement or marketed as the ultimate convenience food.

1.0 WHO WILL HOLD THE PURSE STRINGS?

It is well known that the Canadian population is aging. The social and economic effects of the post WW II “baby-boom bulge” have been documented, as has the mini “echo boom” created by the birth of their children. In 1961, with the baby-boom well underway, 8% of all Canadians were aged 65 or older. By 2004, this proportion had risen to 13%. By 2020, nearly one in five Canadians will be over the age 65 for a projected total of 6.5 million senior citizens.

Figure 1.1: Actual and Projected¹ Distribution of Canadian Population 1996-2020



¹ 1996 to 2003 are actual. Projections are based on medium population growth scenario.

2020 values are presented to the right of the graph, with change over 1996 in brackets. i.e. in 1996, 20% were aged 14 and under.

Source: 1996 - 2003 Annual Demographic Statistics 2003, (Catalogue 91-213-XIB)

2004-2020 - Statistics Canada, Population Projections for Canada, Provinces and Territories, 2001 – 2026 (Revised Feb. 2005)

The median age of Canadians (the age at which an equal number in the population are above or below that point) is projected to reach about 41 years in 2020, up from 35 years in 1996 (see Appendix A). People are living longer, further contributing to the relative proportion of seniors in the population. Between 1996 and 2026, almost five years will have

been added to the average male lifespan (to 80 years), and females will live about three years longer (to 84 years).

Overall, more seniors present opportunities for institutional food services, easy to open packages, single portion sizing, easy to prepare and pre-prepared foods, foods that are easy to digest, and foods that pack a nutritional wallop. A focus on dietary management of health issues associated with aging such as, osteoporosis, high blood pressure, diabetes, digestive problems, Alzheimer’s disease, and cancer prevention, represent significant opportunities for the food sector. Seniors tend to eat less, on average, than their younger counterparts, which will have some impact on average per-capita consumption of various food groups in the future. While the financial situation of retirees is improving, they typically have less disposable income as a group, but more time to shop for food. Value for the food dollar will continue to be a critical driver in food purchase decisions for this segment. Longer life expectancy also means more retirement years, meaning that retirement savings have to last.

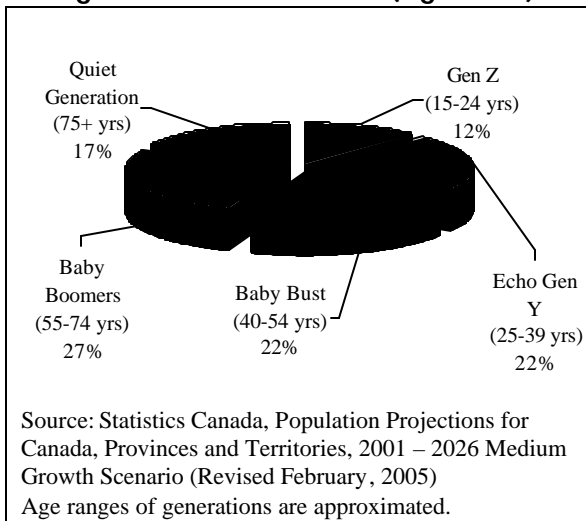
Table 1.1: Projected Population by Age 2004 -2020

Lifecycle Segment	Age	Population Millions		16 Year Change ¹
		2004	2020	%
Children	<15	5.7	5.4	-6
Students and singles	15-24	4.3	4.1	-7
Couples and young families/starting out	25-34	4.4	4.8	+10
Families	35-54	10.0	9.6	-4
Near empty/empty nesters	55-64	3.4	5.1	+51
Retirees	65-74	2.2	3.7	+70
Seniors	75+	<u>1.9</u>	<u>2.7</u>	<u>+40</u>
Total		31.9	35.4	+11

¹ Percent change in absolute numbers of people – 2020 over 2004; Projected – medium growth scenario
Source: Statistics Canada, Population Projections for Canada, Provinces and Territories, 2001 – 2026 (Revised February, 2005).

The actual decline in absolute numbers in the under 25 age group has implications for food products targeted to youth. Sales of items such as baby food, children’s cereals, dairy products, smaller portion juice boxes, and peanut butter, will likely decline. Similar declines in products targeted to the teen/young adult market may be felt. The fast food industry will continue repositioning its image and offerings from “fun” and “kids meals”, to “fresh”, “healthy” and “dashboard dining”, to attract the adult market.

**Figure 1.2: Tomorrow’s Consumer Generations
Age Distribution in 2020 (Aged 15+)**



Future consumer generations are defined by age group, and the socio-economic influences that shaped them. These consumer generations have been assigned names by various demographers and media. A brief description of each segment follows. For more detailed information on the formative influences, consumer characteristics and food drivers, refer to “Tomorrow’s Consumer Generations” in Appendix B.

The Quiet Generation will be the elderly of 2020. These people were born before or during the depression and World War II. As a result, they tend to be traditional in their family values, conservative, and debt adverse. As consumers, this generation

watches their pennies and is loyal to familiar, national brands. Change is resisted. By 2020, this generation will be made up of a large proportion of widows and widowers, either residing on their own, with relatives, or in institutional care. This is a generation of “light eaters”, who will require smaller portions, flavourful, and nutrient dense foods. Food will be a form of medicine to manage issues associated with health and aging.

The Baby-boomers (born 1947 to 1966) will make up the largest proportion of the consumer population. This generation grew up in a climate of social change and prosperity. The tail end baby-boomers, also known as Gen X (born in the early sixties), did not enjoy the job opportunities of their earlier-born cohorts. Dual income families have resulted in more disposable income, accompanied by a shift to eating out and convenience foods, partly supported by the introduction of the microwave oven. The baby-boomers are exposed to new cuisines through travel in their semi-retirement and retirement years. Obesity and aging are major drivers effecting food choice. Increasingly, this group will adopt functional foods. Brand is a status symbol for many baby-boomers, although private label and nostalgia brands represent some value. Quality will outstrip quantity as the baby-boomer households shift from feeding hungry teenagers to feeding themselves.

The Baby Bust Generation, a much smaller cohort than the boomers, were the children of the late sixties and seventies. This segment will represent the high volume family households in 2020. They are characterized by high debt loads; and, while cautious, they justify small indulgences in things like food purchases. Raised with Ronald McDonald, they are the first real “fast food” generation. Polarization between the obese and the fit is evident, and this generation face challenges managing their weight as they age. This group is more experimental with food than their predecessors. Declining involvement with food preparation in favour of pick up is the norm. Brands are selected on a range of product attributes. This generation was the first to have experienced real fragmentation of the media in their formative years.

The Echo Generation or Gen Y, born in the 1980’s and early 1990’s, represent the children of the baby boomers. This generation will probably have the most influence on trend setting through to 2020. They will be forming households and starting families, and will be very cautious about what they feed their

children. The Internet, instant communications, global influences (including representation of visible minorities), and social consciousness are the driving forces. This generation is more sophisticated and design conscious, due in large part to their early exposure to electronic media. They have an attitude that everything is disposable. The Gen Y's are more savvy consumers who are growing up knowing how to read food labels. Health and weight management will be seen as more of a lifetime commitment, as prevention messages will have been targeted at this group in their teen years. Portability of foods will fit busy, on-the-go lifestyles. Increasingly, ethnic, exotic, veggie and organic foods will be sought. Cooking and in-home dining will become a social event. Brands reflect individualism and lifestyle for this segment. Marketers will be looking for more ways to reach this generation on a personalized basis.

The Gen Z or Millennium Kids, born during the 10 years straddling the millennium, will be the youth market of 2020. They will be influenced by continued globalization and environmental issues. Health and weight will be managed more through medical technology. They will be raised on healthier convenience foods and snacks. Brands are trendy for this group. Blending and crossover of media, sports and entertainment will be used to advertise goods.

2.0 HEALTHY LIFESTYLES

Increasing incidences of many chronic diseases have been linked to diet and lifestyle (e.g. inactivity). For example, the Canadian Cancer Society and the Heart and Stroke Foundation report that:

- * up to 30% of cancer is related to what is eaten;
- * eating fruits and vegetables can reduce the incidence of cancer by more than 20%, and can also reduce cardio deaths; and
- * carrying extra weight (as little as several pounds) increases the risk of cardiovascular disease, diabetes, and some cancers.¹

In 2003, 10% of Canada's Gross National Product (GNP), or \$121 billion, was spent on health expenditures, versus 9.2% (\$90 billion) in 1999. As well, consumers are feeling the health care cost pinch in their personal pocket books. A total of 5.4% of all personal expenditures in 2004 was spent on health care and pharmaceuticals, up from 4.6% in 1996.²

Preventable diet-and-inactivity-related diseases are associated with an estimated 20,000 to 47,000 premature deaths in Canada every year. These diseases:

- * result in between \$2.5 and \$4.6 billion in health care spending; and
- * are responsible for a drain of between \$5.3 and \$9.9 billion per year from the Canadian economy as a whole.³

Factors other than diet or lifestyle that contribute to the rise in the incidence of these diseases are: the aging population; better and earlier diagnostic methods; and better treatment leading to stabilizing

¹ Cash, S., Cortus, B., Han, A., Lerohl, M., Lomeli, J., "Integrating Food Policy with Growing Health and Wellness Concerns: An Analytical Literature Review of the Issues Affecting Government, Industry, and the Civil Society". Edmonton: Department of Rural Economy, University of Alberta, 2004.

² Statistics Canada

³ Source: Integrated Pan-Canadian Strategy: Role of the Federal Government in Addressing Obesity, Presentation given at the University of Toronto Obesity Symposium, June 14, 2005 by Dr. Claude Rocan, Centre for Healthy Human Development, PPHB, Health Canada.

or declining mortality rates. Causal factors, such as social and economic issues or environmental risks also contribute to the increase.

The incidence of diabetes in the population (aged 12+) increased from 3% in 1995 to 4.6% in 2003, according to Statistics Canada. Most alarmingly, is the dramatic rise in Type 2 diabetes in children, described by the Canadian Diabetes Association as the 'emerging epidemic' of diabetes. Type 2 diabetes was formerly a disease of adults but now children as young as 9 are being diagnosed with this condition. Links to obesity, lifestyle and ethnicity have been identified.⁴

Research and initiatives to combat diet and lifestyle related health issues will undoubtedly continue. For example, the World Health Organization, as well as the Canadian Government, have undertaken major initiatives to combat obesity and chronic disease⁵.

Not only are health professionals and governments concerned with diet and lifestyle related health issues, so are consumers. The majority of the health issues that consumers are most concerned with are linked to diet and lifestyle.

Top Health Concerns of Canadians in 2004

More than half of Canadians are personally concerned with general well being.

About one-third of Canadians are concerned with:

*Eye health
Cancer*

⁴ Public Health Agency of Canada, 2003.

⁵ In October of 2002, The Honourable Anne McLellan, Minister of Health, and Dr. Diane Fingood, Scientific Director of the Canadian Institutes of Health Research (CIHR) Institute of Nutrition, Metabolism and Diabetes, announced that \$15 million in CIHR funding would be dedicated to research programs in the field of obesity and healthy body weight over a five year period. On January 27, 2005, the Director-General of the World Health Organization (WHO), Dr. Lee Jong-wook, and the Federal Minister of Health for Canada, the Honourable Ujjal Dosanjh, signed a Framework for Cooperation on Chronic Diseases Agreement at the annual World Economic Forum in Davos, Switzerland.

Cardiovascular disease
Overweight/obesity
High cholesterol
Lack of energy
Weak or stressed immune system
Diabetes

About one in four Canadians are concerned with:

Arthritis
Hypertension/high blood pressure
Lack of mental sharpness or focus
Alzheimer's Disease
Osteoporosis
Frequent colds/flu
Gastrointestinal problems

About one in six Canadians are concerned with:

Allergies from foods
Depression
Menopause (women only)
Signs of aging
Lactose intolerance

**Percentage of respondents extremely or very concerned about health conditions on a prompted basis.*

Source: "Demand for Food Products Supporting Health and Wellness, Final Report, Prepared for Agriculture and Agri-Food Canada", Ottawa: Decima Research Inc. June 2004.

Perhaps because women have traditionally taken greater responsibility than men for family food shopping and meal preparation, nutritional concerns are more important to women. Women tend to be more likely than men to consider overall health, body weight, and specific diseases or conditions when making food choices.⁶ This illustrates the direct link with label reading when selecting foods.

The increased consumption of healthy products has paralleled shifting consumer attitudes; "stimulation of the senses", and more precisely "taste", is becoming less important to consumers when it comes to food choices, in favour of nutrition. This does not mean, however, that products that don't taste good will achieve market success, in spite of their healthful benefits. With the constant barrage of sometimes conflicting information about the harmful effects of some foods, consumers are losing confidence in their

⁶ "Demand for Food Products Supporting Health and Wellness, Final Report, Prepared for Agriculture and Agri-Food Canada", Ottawa: Decima Research Inc. June 2004.

knowledge of nutrition and are turning to food labels and other sources, including the Internet, for information. Food choices are as much about avoidance as selection. Research has shown that consumers intend to reduce their household purchases of products like snack foods and soft drinks, mainly because of a recognition that these products are not as healthy as other choices. A desire to reduce calorie, fat and sugar intake is also indicated⁷. Whether this intention translates to an actual long-term reduction in sales of these items still remains to be seen. Encouragingly, research has shown that about one-third of Canadian households have a member who has changed their eating habits in some way, and about half of these individuals have maintained the change for over a year.⁸

Significantly, in 2000, Canadians were meeting the target of 30% of energy derived from fat, down from 40% a quarter century earlier. Carbohydrates picked up most of the decline in fats, while energy from protein increased marginally during this period. This shift was fuelled by awareness of fat reduction, as well as the availability of lower fat alternatives such as 1% milk, lean ground beef and less deep fat frying.⁹ Further support for change in the right direction comes from ACNielsen, who reported a declining trend in retail grocery store sales of soft drinks between 2001 and 2003, while growth in traditional snack foods showed signs of lagging behind growth in all grocery categories tracked.¹⁰

While we have the best intentions to eat better through lifestyle changes rather than "quick-fix" diets, some of the barriers to healthier eating include¹¹:

- * lack of time;

⁷ "Food Issues Monitor International Report 2004, International Public Opinion on Food from Production to Consumption". Toronto: GlobeScan Incorporated, November 2004.

⁸ "Food for Thought, Canada's Only Syndicated Study of Attitudes and Behaviour Related to Food Health and Safety". Compas Public Opinion and Customer Research, April 29, 2004.

⁹ Pasut, L., "Food Habits of Canadians; Changing Nutrition Issues". Mississauga: The Beef Information Centre, © 2001.

¹⁰ "Annual Canada Consumer Expenditure Study Food Grocery Products (2003), Prepared for Agriculture and Agri-Food Canada". Toronto: ACNielsen, March 2004.

¹¹ "Canadians on Healthy Eating", Toronto: Ipsos-Reid, January 2005.

- * confusion regarding understanding nutritional labels;
- * skepticism of manufacturers' claims regarding healthier products;
- * perceptions of higher costs of healthier food and beverages; and
- * perceptions that healthy options do not taste as good as "regular" foods.

We are certainly becoming better educated consumers regarding healthy eating. Nevertheless, most weekday meals are planned within hours of the meal, and on weekends, there is only slightly more forethought.

As consumer consciousness translates to changing behaviours and consumption patterns, concern with reducing certain foods or food ingredients wanes. Over time, avoiding trans-fats, salts, or refined carbohydrates, or eating more fruit, vegetables, fibre and yogurt will simply become a part of the consumers' more permanent choice set.

The food industry is responding to the aging population and increasing health concerns of consumers in general. ACNielsen¹² tracks nearly 500 food product categories annually and reported that about one in five active manufacturers' listings in retail grocery stores in 2003 were considered "better for you products."¹³ The number of "better for you" product listings had more than doubled in three years, while the market share of these foods climbed with about a 1% annual gain. In fact, six of the seven retail grocery categories experiencing double digit growth in 2003, as tracked by ACNielsen on a global basis¹⁴, were related to consumers' perceptions of health and diet. Food manufacturers are taking notice and are tracking the healthful image of their brands. Of seventeen national brands tracked in 2004, Tropicana, Quaker and Dole rated highly in terms of perceived healthfulness, Kraft and Kellogg's fell in the middle, while Frito Lay, Christies, Pepsi and Coke were at the very bottom of the pack.¹⁵

¹² "Better for You Products, Rolling 52 Weeks to July 12, 2003". Toronto: ACNielsen Market Track, 2003.

¹³ Products with brand identifiers such as diet, sugar free, light, low/no salt, low fat, fat free, calorie reduced, organic etc.

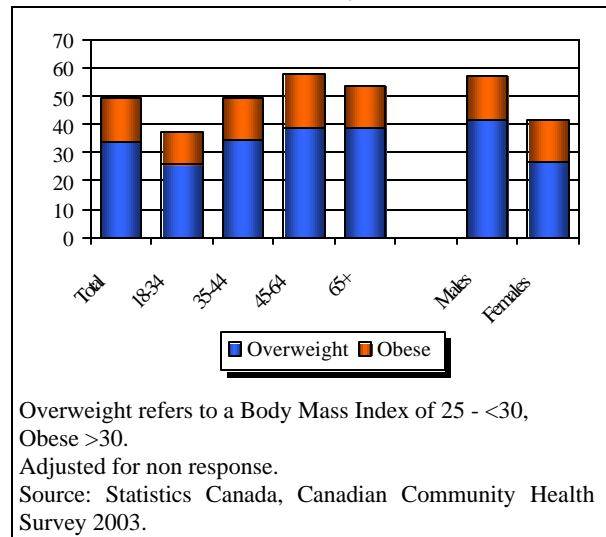
¹⁴ "What's Hot around the Globe: Insights on Growth in Food and Beverages 2004" ACNielsen Global Services.

¹⁵ May 2004, Ipsos-Reid Canadian Online Express Omnibus

2.1 OBESITY AND HEALTH

One out of every two adult Canadians was obese or overweight in 2003. Overweight refers to a Body Mass Index of between 25 and under 30, and obese as over 30. These rates increase with age to 65, then level off. Males have a greater tendency to be overweight than females. The rate of increase in obese Canadians has been fairly dramatic, with the number of adult Canadians (aged 20-64) considered obese increasing by 24% between 1994/95 and 2000/01.

Figure 2.1: Percent of Adult Canadian Population Overweight or Obese by Age and Gender, 2003



Illustrative of the trend toward obesity, one quarter of Canadians who were overweight in the 1990's became obese a decade later, while just one in ten of those who were overweight managed to get to a normal weight range.¹⁶

Paradoxically, Canadians seem to be more content with their weight and appearance; perhaps as a natural result of an aging population, or because "overweight" is fast becoming the norm. In spite of the high obesity and overweight levels, only about

¹⁶ National Population Health Survey, 1994/5-2002/3. Ottawa: Statistics Canada.

8% of Canadian households reported having at least one member who had changed their eating habits in some way (within the twelve months prior to March (2004), specifically to lose weight.¹⁷ Estimated apparent daily caloric consumption increased from 2356 to 2788 calories between 1991 and 2002¹⁸. Further, fairly high levels of self-perception of leading a healthy life style and eating healthy seem at odds with the obesity and overweight reality. In 2004¹⁹, just 16% of Canadians rated themselves as overweight (70% rated themselves as average), in spite of Body Mass Index (BMI) data to the contrary. More realistic numbers, in line with actual rates of obesity and overweight, were recorded for expressed concern about one's weight and a stated effort to keeping one's weight at a healthy level. But, clearly, there is an attitude of denial, as less than one in ten Canadians recognized their eating habits were somewhat, or not at all healthy.

Childhood and teen obesity rates are also on the increase. Over a third of children aged 2 to 11 were considered overweight or obese in 1998/99, while about half this rate was reported for children in their late teens. Canadians have a fairly balanced view that unhealthy eating and lack of exercise both contribute to childhood obesity. In response to the childhood obesity issue, in-school nutrition and lifestyle education programs are beginning to be included in the curriculum. Although still not the norm, mandatory physical education programs are being introduced, and healthy choices are being offered in school cafeterias and vending machines, replacing traditional pop, candy, and chips. The majority of Canadians support not advertising foods with limited nutritional value to children, and not selling such foods to children in schools. The impact that these changes may have on the healthy eating habits of the consumers of tomorrow will hopefully be significant.

Not surprisingly overweight and obesity rates have been linked to inactivity as well as lower fruit and vegetable consumption. Canadians are well aware

¹⁷ "Food for Thought, Canada's Only Syndicated Study of Attitudes and Behaviour Related to Food Health and Safety". Compas Public Opinion and Customer Research, April 29, 2004.

¹⁸ Values should be interpreted with caution. Statistics Canada: Catalogue 21-020-XIE

¹⁹ "Food Issues Monitor International Report 2004, International Public Opinion on Food from Production to Consumption". Toronto: GlobeScan Incorporated, November 2004.

that their low levels of exercise contribute more to obesity than poor diet. Among children, a key indicator is obesity rates in their parents. Women and children living in low income households also have a tendency to be overweight or obese.

Groups such as The Canadian Heart and Stroke Foundation (HSF) have recognized the seriousness of the obesity issue, given its propensity to lead to other diseases²⁰ such as cardiovascular disease, diabetes, several types of cancer, and as well, premature death. Table 2.1 shows the high risks of disease associated with obesity and overweight. For example, obese Canadians are almost four times as likely to have diabetes as those of normal weight in the 20-64 age group.

Table 2.1: Odd Ratios for Selected Health Characteristics Linked to Obesity and Overweight¹

*Population aged 20-64 years
Compared with normal weight population*

	Overweight	Obese
Diabetes	1.73*	3.97*
High Blood Pressure	1.86*	3.26*
Arthritis	1.30*	2.01*
Thyroid Disorders	1.39*	1.75*
Asthma	1.21*	1.59*
Heart Disease	1.08	1.56*
Back Problems	1.13*	1.36*

*Statistically Significant at $p < 0.05$

¹ Based on 1996/97 data

Source: Health Report, 1999, Statistics Canada
Catalogue 82-003-XIE

The fast food industry was slammed by negative media in the early years of the century, and reality TV shows focusing on weight reduction and makeovers filled the airwaves. This exposure to the adult obesity issue, in addition to public awareness campaigns sponsored by government and health-related associations, may play a role in changing the consumption patterns of aging adults. While Canadians do recognize the shared role of governments, food manufacturers, supermarkets, and the food service industry, they are leaning toward personal responsibility in ensuring that people eat healthy diets. Consumers also question the effectiveness of the efforts of these entities, including

²⁰ Obesity was introduced into the international classification of diseases over fifty years ago.

their own, on anti-obesity efforts. In general terms, some food manufacturers have a fairly negative image when it comes to the health interests of the public. Consumers question whether the food industry always has their best interests at heart by feeling tempted by too many fat, sugar, or salt laden choices.

2.1.1 Low Carb... Fad or Trend?

Quoting from the “Consumer Food Trends for the 1990’s” report²¹: “*‘fad’ diets are out, we are told, while lighter and leaner and moderation are ‘in’*”.

A reduced interest in low carb diets was observed in the United States by NPD Group... the percentage of American adults on any low-carb diet dropped in half throughout 2004. Certainly, the impact of the low carb “Atkins” diet and others such as the “South Beach” diet were not anticipated, in regard to the reduction in consumption of refined carbohydrates, and the accelerated trend to whole grains and high fibre. Whether this downward trend continues is anybody’s guess, but what is certain is that fad diets will continue to pop up and have at least short-term impacts on the mix of foods consumed. If any sustained trend is realized from the low-carb diet fad, it is likely an improved awareness of the role refined carbohydrates play in weight management, and a continuing focus of food manufacturers to offer reduced carb or healthier carb alternatives. This opens the door for products made from Canadian-grown grains such as barley, wheatberries, buckwheat, bulgur, kasha, oats, millet, cornmeal, wild rice, flax seed, whole-grain cereals and flours that turn into breads, pilaffs, risottos, stuffings, soups and salads. The revival of artisan bakeries makes use of a creative array of grains, seeds, vegetable purées, dried fruits and herbs in traditional breads. Different forms of bakery products using these ingredients, such as flatbreads with an international flavour (tortillas, foccacia, pita and naan) are emerging.

The GI Index... The Next Catchword?

One tool that may aid the healthier management of carbohydrates in our diets is the glycemic index (GI). The GI is a scale that ranks carbohydrate-rich foods according to how much they raise blood glucose levels compared to a

²¹ This publication, prepared for AAFC by Hicks’s and Company of Toronto, in 1990, was the predecessor to this current trends document.

standard food. Foods with higher GI values, such as white bread and mashed potatoes, are rapidly digested and absorbed, resulting in substantial increases in blood glucose and insulin levels after ingestion. Foods with lower GI values, such as beans and oatmeal, produce a gradual rise in blood glucose and insulin levels because of their slower digestion and absorption.

2.2 THE FAT DEBATE – WHAT’S GOOD AND WHAT’S BAD

We as consumers were told that saturated fats were “bad” and that foods labelled as having “no cholesterol” were good. Media reports have since hammered at the health and heart risks of consuming trans-fats and hydrogenated vegetable oils, while technically cholesterol free. The banning of the use of trans-fats in food processing and food service has been suggested, as has the possibility of corporate liability in regard to offering high calorie/fat foods.

Canadian Food Manufactures and Exporters Lead in Trans-fat Elimination

In 2003, McCain Foods announced the elimination of the use of hydrogenated oils in their manufacture of french fries and a year later, Voortman’s was the first to introduce trans-fat free cookies. Both these companies have benefited from the resulting media attention.

The inclusion of the amount of trans-fats on Nutritional Facts labels by the end of 2005 will further heighten consumer awareness, encouraging them to make other choices, which will in turn stimulate the change in the market offering. However, the Canadian food industry faces a significant challenge in reducing or eliminating the trans-fat content of processed foods. The primary challenge is identifying healthy alternatives that deliver the required shelf-life protection, and desired taste and texture, provided by trans-fat.

At the time of writing, Canadian consumption of trans-fatty acids was estimated at about 8.4 grams per day, accounting for 10% of total fat intake

(recommended intake is less than 2%). Remarkably, Canadian men aged 18 to 34 eat an average of 38.9 g of trans-fatty acids a day.²² Research has suggested that eating as little as one gram of trans-fats daily can increase the risk of heart disease by 20%.²³

One problem is that as much as one-third of the fat in the average diet is coming from “other foods” such as less healthy snack foods (including cookies, crackers and baked goods typically high in trans-fats) and beverages, and not from the four recommended food groups as outlined in Canada’s Food Guide.²⁴ We are simply getting too many “empty calories” that are not contributing to our nutrition.

Consumers are responding by shifting their consumption of fat and oil types. For example, between 2000 and 2003, ACNielsen reported a 30% increase in retail grocery dollar sales of olive oil, a 15% increase in other cooking and salad oils, and a 6% decline in lard and shortening sales²⁵. According to Statistics Canada, per-capita consumption of margarine declined steadily between 1995 and 2003, while butter was trending upwards at the end of this period, possibly due to its re-positioning as a “natural” product.

Imported olive oil and Canadian canola oil will continue to increase as we recognize the value of heart-healthy monounsaturated fats in our diet. Wholesome nut and seed oils such as almond, flax seed, pumpkin seed and grape seed also have potential.

2.3 A SALTY ISSUE

High blood pressure is a serious public health problem and raises the risk of developing heart disease and stroke. Lowering salt intake helps to reduce high blood pressure by decreasing fluid

²² “Health Canada Scientist Leads Trans Fat Research”, Health Canada, Office of the Chief Scientist, February 22, 2005.

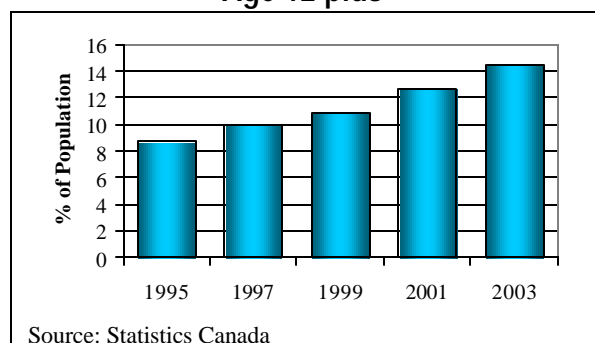
²³ Bloom, R., “Unilever wipes trans-fats from products”, Toronto Globe and Mail, Toronto: March 23 2004.

²⁴ Pasut, L., “Food Habits of Canadians; Changing Nutrition Issues”. Mississauga: The Beef Information Centre, © 2001.

²⁵ “Annual Canada Consumer Expenditure Study Food Grocery Products (2003), Prepared for Agriculture and Agri-Food Canada”. Toronto: ACNielsen, March 2004.

retention in the body and therefore contributing to lowering the burden of cardiovascular disease.

Figure 2.2: Increase in the Incidence of High Blood Pressure in Canada Age 12 plus



Canada’s Food Guide recommends a maximum of 2400 mg of sodium per day, which equates to about 6 grams of salt or one teaspoon. Estimates suggest that most Canadians consume two to three times this amount. Only about 500 milligrams is actually required by adults on a daily basis. In the past, salt reduced diets were focussed on adults over 40 years with high blood pressure and heart trouble. Now, nine out of ten people, both children and adults, are thought to be consuming too much salt.²⁶

A shift to convenience foods may be at fault. Salt is primarily sourced from processed foods such as snacks, bread, biscuits and cakes, breakfast cereals, frozen dinners, instant noodles, soups and sauces, meat products, and some dairy products. In fact, about 75% of the salt consumed in our diets is estimated to come from processed and packaged foods. Comparatively little is added from the salt shaker at the table. Restaurant meals also contribute to the salt intake.

Salt reduction will continue to be a health sector, consumer, and food industry focus, particularly given that the incidence of high blood pressure is growing. For example, Britain has taken the lead in mandating that food manufacturers reduce salt content, with the goal of reducing national consumption to recommended levels of 6 grams per day by 2010²⁷.

²⁶ “Salt of the Girth”, www.healthyontario.com

²⁷ UK Department of Health (2005) “Choosing a Better Diet: a food and health action plan”, London.

2.4 DRINK YOUR MILK!

According to Health Canada (2003), about one out of four women and one in eight men over 50 years of age have, or will develop, osteoporosis. Half of women over age 70 will develop the disease. Seven in ten fractures in those over the age of 45 are due to this disease. While there are many risk factors for osteoporosis, calcium and vitamin D deficiency and consuming too much caffeine or alcohol (which can interfere with absorption), along with lack of weight bearing exercise, have been identified as the lifestyle and diet causes. The implication is that as the population ages, the incidence of osteoporosis will increase, as will the burden on the healthcare system to treat the disease or provide living assistance to those afflicted. Osteoporosis is a largely preventable condition, requiring consumer education and diets that provide calcium in a natural form, in fortified foods, or as supplements. Dairy products are known to be an excellent source of dietary calcium.

2.5 HIDDEN THREATS: FOOD SENSITIVITIES

True food allergies present a significant threat to human health. Five to eight percent of Canadian children and one to two percent of adults are estimated to have true diagnosed food allergies.²⁸ Paradoxically, self reported incidences of food allergies are higher at 7% of the adult and teen population²⁹, suggesting that a greater degree of food avoidance is practiced than is necessary. This rate was fairly constant through the mid 1990's through to 2003.

The most severe allergic reaction is anaphylactic shock; an extreme overreaction of the body's immune

²⁸ Health Canada: "Paper on the Allergen Control Activities within the Canadian Food Inspection Agency", April 17, 2003.

²⁹ Statistics Canada: "Canadian Community Health Survey": 2001 and 2003. This study asked Canadians aged 12 and older about long-term conditions (at least six months or more) that have been diagnosed by a health professional.

system, usually to a protein, starting with swelling, difficulty breathing, cramps, vomiting and diarrhoea, and may even result in death. According to Statistics Canada, there were six deaths due to food anaphylaxis in 1997 and eight in 1998 in Canada.³⁰

The peanut is the most commonly known food allergen, where ingesting or inhaling even minute amounts can trigger an anaphylactic shock in a highly sensitive person. Complete food avoidance must be followed. Some of the other common allergens include:

- * tree nuts (almonds, Brazil nuts, cashews, hazelnuts (filberts), macadamia nuts, pecans, pine nuts, pistachios, walnuts);
- * sesame seeds;
- * milk;
- * eggs;
- * fish;
- * crustaceans (e.g. crab, crayfish, lobster, shrimp) and shellfish (e.g. clams, mussels, oysters, scallops);
- * soybeans;
- * cereals containing gluten (wheat, rye, barley, oats); and
- * sulphites.

Together, these ten food types account for 90% of severe adverse food reactions within the Canadian population.³¹

Food intolerances, a less serious form of food sensitivity, are more likely to originate in the gastrointestinal system, rather than be an immunological response. Food intolerances usually mean an inability to digest or absorb certain foods, or components of those foods. A common example is lactose intolerance; a person with this condition may be able to eat some cheeses, drink modified milk, or use a dairy digestive supplement. Lactose intolerance means the person does not have enough of the lactase

³⁰ Weisnagel, John MD., "Peanut allergy: where do we stand?" <http://www.allerg.qc.ca/peanutallergy.htm>. Note: Figures for subsequent years were reportedly unavailable because coding of deaths following World Health Organization (WHO) guidelines does not specify deaths caused by anaphylaxis related to foods or other causes.

³¹ Health Canada: "Paper on the Allergen Control Activities within the Canadian Food Inspection Agency", April 17, 2003.

enzyme to digest the sugar, lactose, in milk. Some people who are lactose intolerant or who are allergic to milk rely on Kosher labelling, since strict Jewish dietary laws prohibit the mixing of meat and dairy.

Anecdotal data posted on several health related web sites or presented in articles on the subject suggests that food sensitivities (allergies and intolerances) are increasing. For example, an August 27th, 2004 headline in the Toronto Star warned: “*Deadly Allergies are on the Rise.*”

Whether this increase is real or perceived is unclear. What is known is that there is greater public awareness of food allergies through the media, school programs, and the communications efforts of health professionals and dedicated non-profit associations. Better diagnostic techniques are undoubtedly contributing to this apparent increase. Some researchers point to the modern world's drive to sanitize everything. It is suspected that with less to react to, the immune system may be more likely to over-react to substances that would otherwise be harmless. Other research suggests that early exposure of infants to a wider variety of allergens may be at fault, including possible sensitization during pregnancy or through consuming breast milk.³² Prepared baby foods may also contain known potential food allergens. Awareness of this risk may be influencing pregnant women and mothers of young children to turn to natural and organic products.

The three key consumer trends that are linked to the food sensitivity issue are:

- * *Increased consumption of convenience (processed) foods and eating out.* Allergens are a significant problem in processed foods and condiments, e.g. trace amounts of milk in flavourings or seasonings may not be declared on food labels. Peanut oils are frequently used in prepared Asian dishes. Eggs can be found in some unexpected items, such as processed meats, breakfast cereals, marshmallows, noodles and some cosmetics. Those allergic to milk must watch out for ingredients such as sodium caseinate or casein. The sensitive consumer must be very aware of food ingredients and be able to read and understand

³² Zarkadas, M., Scott, F., Salminen, J., Ham Pong, A., “Common Allergenic Foods and Their Labelling in Canada – A Review”, Canadian Journal of Allergy and Clinical Immunology, Volume 4, No. 3, 1999.

food product labelling. Even so, cross contamination may occur at any stage; from the farm gate to plate, through, for example, improperly cleaned equipment or utensils.

- * *Changing consumption of foods that present an allergen risk.* The best examples are soy and tree nuts, both of which have shown growth in recent years. An assumed increase in peanut consumption has been partly blamed for a rise on peanut allergies; however, an analysis of Statistics Canada food consumption data indicates that through the last two decades of the 20th century, peanut consumption fluctuated between two and just under three kilograms per-capita, peaking in 1995 and then showing a declining trend. The reason for this decline may be due to peanut avoidance because of awareness of the allergy issue (including outright banning in some schools or daycares where peanut allergic students attend), or to a decrease in peanut butter consumption; a popular product with children but less so for an aging population.
- * *Immigration*, where certain ethnic groups may have a genetic propensity to certain food sensitivities such as lactose intolerance.

The Canadian Food Inspection Agency (CFIA) has been addressing food labelling regulations as it pertains to food allergens, as well as testing foods for compliance.

Certainly, reports of food recalls are another contributor to increased consumer awareness of the issue, as are reports of medical breakthroughs. For example, medical research into identifying genetic markers for food allergy propensity is underway, as is the development of effective antidotes.

Research that may lead to “designer foods” is also being pursued. Examples include preventative drugs to reduce or eliminate the reaction to the food sensitivity (that could be taken separately or incorporated into the reaction-causing food), and plant breeding to eliminate the offending allergy-causing proteins.

In addition to meeting the labelling needs of consumers (including making the warnings prominent, easy to read, and comprehend) the opportunity to introduce alternative, allergen-free products exists.

NoNuts Golden Peabutter

In 1998, Joe St. Denis, a 20-year Alberta pea industry veteran who grows a wide variety of edible peas and beans, started thinking about innovative alternatives for processing his crops. His quest for value-added options led him to AAFRD's Leduc Food Processing Development Centre, where the concept for a spreadable pea butter product was developed and perfected. It is completely peanut and nut free, made from golden brown peas, in a nut-free facility. Other benefits include no trans-fats, gluten and cholesterol free, low in saturated fats, no salt added, a source of Omega 3 polyunsaturated fatty acids, Kosher, and excellent shelf life. Peabutter, high in protein, is ideal for school lunches, especially where peanut and tree nut products are restricted because of allergies. It can be used as a replacement ingredient in recipes calling for peanut butter such as cookies, squares, energy bars and sauces. In recognition of the innovation, Joe St. Denis received a Gala award from Growing Alberta, the Grand Prix award for new products from the Canadian Council of Grocery Distributors and a Canadian Agri-Food Award of Excellence for Innovation from AAFC.

2.6 HEALTHY ALTERNATIVES: THE OPPORTUNITY

The opportunity for the food industry is to provide consumers with healthier products in tasty and convenient forms that contain less fat, less sugar, more fibre, fewer calories, no hydrogenated (trans) fats, less sodium or salt, less carbs, and more soy protein (listed in order of frequency of mention in a 2005 consumer poll)³³. Reduction in portion sizes should also be considered. Consumers are now actively seeking lower calorie alternatives. For example, between 2000 and 2003, ACNielsen reported a 29% increase in retail grocery dollar sales

³³ "Canadians on Healthy Eating", Toronto: Ipsos-Reid, January 2005.

of sugar substitutes, while sugar sales remained flat.³⁴ Sugar and sweetener substitute blends are now available.

Brands associated with "low fat/calories", including private label options and brand linked to weight loss programs, will continue to support the growth of the prepared foods market targeted at the obesity issue. The trick for marketers will be to place a positive spin on the product changes so that consumers don't feel they are compromising pleasure. "Low carb" for example just sounds like it might not taste as good or that these foods would only be for those following this type of diet, while "high fibre" conveys a healthier benefit with broader appeal. The same holds true for negative perceptions associated with food additives or artificial substitutes, e.g. "no sugar added" versus "artificially sweetened". Stated elimination of "bad for you" ingredients, additives or preservatives will continue to strike a cord with label readers, for example trans-fat; MSG or gluten free, sodium reduced, etc.

Prepared meals targeted at calorie conscious consumers take the guess work out of calorie counting. They can meet the needs of a single dieter within a household, and heat and serve options reduce the dieters' involvement with food preparation and therefore the risk of snacking while cooking.

The food service industry is already responding with calorie-reduced options or smaller portion sizes.

Fast Food Outlets Adds Salads to Combat Their Junk Food Image

Expect more proactive changes from major food manufacturers as they scramble to avoid "I'm-fat-and-it's-your-fault" lawsuits. They'll provide better formulations, healthier snack options, eliminate trans-fats, and more. For example, McDonalds introduced a walnut and fruit salad in 2005, and Wendy's offered a cut fruit and yogurt dip option.

2.6.1 Making Every Bite Count

With greater awareness of the links between diet and specific health issues, expect to see more functional foods targeting the wellness concerns of consumers as identified in the introduction to section 2 of this

³⁴ "Annual Canada Consumer Expenditure Study Food Grocery Products (2003), Prepared for Agriculture and Agri-Food Canada". Toronto: ACNielsen, March 2004.

document. Further, endorsements by various health related organizations of certain foods or brands (as evident by package symbols, promotional campaigns, reports on the Internet and in the media, recipes and so forth) will undoubtedly influence consumer-purchasing decisions by lending credibility to food manufacturers' claims.

The knowledge that foods provide more than basic nutrition and energy is not new. What has evolved is a push for "proof"; demonstrated physiological benefits or the reduced risk of chronic disease as a result of consuming certain foods, whether in their natural form or fortified. Some common examples include:

- * consuming carrots to prevent eye diseases;
- * drinking cranberry juice to address urinary tract infections;
- * consuming dairy products to counter osteoporosis, increasing fibre intake to prevent colon cancer and improve intestinal health;
- * eating blueberries and certain vegetables with anti-oxidant properties to prevent cancer or slow the effects of aging;
- * consuming fish oils (containing Omega-3 fatty acids) for normal growth and development, mental capacity and cardiovascular health;
- * eating tomatoes (lycopene) for prostate health;
- * taking glucosamin for arthritis;
- * drinking red wine (for cardiovascular health); and
- * consuming soy products and evening primrose to reduce the symptoms of menopause.

Driving the acceptance of functional foods and nutraceuticals (FFN's)³⁵ are a number of factors:

- * increased awareness by the public and the health care industry of health concerns, the role of diet, and the benefits of prevention given raising health care costs. Certainly increasing life spans and a push for maintaining quality of life comes into play;
- * a preference to "self-medicate";

³⁵ Health Canada defines functional foods as foods shown to have a physiological effect or that are known to reduce chronic disease. Nutraceuticals are products derived from food which are sold in a medicinal form for the same potential health benefits.

- * acceptance by consumers and health professionals of the benefits of FFN's, supported in many cases by scientific research; and,
- * the business opportunity presented to the food industry by offering differentiated products with enhanced profit margins to the marketplace.

A 2004 study identified that many Canadians are receptive to using food as a way to prevent disease and improve health. In fact, four in five Canadians expressed interest in learning more about foods that have health benefits beyond basic nutrition and may reduce the risk of disease or other health concerns. Canadians get such information from doctors, the Internet and friends and relatives, although they consider dietitians, doctors and pharmacists to be the most credible sources.³⁶

Looking ahead, the market for FFN will continue to be dependent on research and the effectiveness of communicating to the consumer, but perhaps even more so, on the evolving regulatory and labelling environment.

Health professionals will continue to be a key link in the consumer education process, but must be assured of the safety of FFN's as well as their relevance within the context of the total diet prior to actively recommending them. Finally, research has shown that consumers are more accepting of such foods that are in a less processed form, for example, yogurt, cheese, cereals, and bread. In fact, a survey of health professionals supports a preference for recommending FFN's in their naturally occurring form. The exception is Naturopaths, who are more accepting of supplements.³⁷

Parmalet Introduces Omega-3 Products

The introduction of convenient sources of Omega-3 milk (Beatrice brand), Black Diamond cheddar cheese, ASTRO yogurt, and Lactantia margarine is designed to help Canadians include this essential nutrient in their diet.

³⁶ Source: "Demand for Food Products Supporting Health and Wellness, Final Report, Prepared for Agriculture and Agri-Food Canada", Ottawa: Decima Research Inc. June 2004.

³⁷ "Functional Foods and Nutraceuticals, Survey among Health Professionals (Phase 1), Prepared for Agriculture and Agri-Food Canada", Ottawa: Environics Research Group, May 2004.

Dietitians estimate that Canadians are getting less than a third of their daily Omega-3 requirement, mainly because the options (cold water fish and to a lesser extent, Omega-3 eggs) are restrictive and inconvenient. Fish oil supplements are the least preferred method for obtaining this nutrient. A study undertaken by Ipsos-Reid for Parmalet in 2004 revealed that half of Canadian consumers have heard nothing to very little about Omega-3 and an equal number were unaware of which foods and beverages contain Omega-3, indicating that consumer education is still required on this issue to support the widespread adoption of these new products.

Source: Canadian News Wire Group, February 16, 2005.

The opportunities for FFN's are not limited to new "designer" or fortified foods. Awareness and appreciation of the medicinal benefits of ancient natural and herbal remedies is growing within the emerging Natural Health Products category. Cultural diversity will continue to support acceptance of traditional products such as teas.

A significant opportunity exists to promote calcium rich fruits and vegetables, dairy products, and calcium fortified food such as juices and cereals to combat osteoporosis among aging adults. Non-dairy alternatives have particular application for those who are lactose intolerant, vegetarians or Asian immigrants for whom dairy products are not traditionally a big part of their diets.

Marketers are also responding with gender specific food and beverage offerings. For example, in the U.S., such products targeted at the nutritional needs of women averaged 80% annual growth between 2000 and 2004 and a further thirteen-fold increase was forecast to 2009.³⁸

³⁸ "Sales Food and Beverages for Women Grow Ten-Fold Between 2000 and 2004, According to New Report", New York: Packaged Facts, June 23, 2005.

3.0 CHANGING TASTES

3.1 THE ETHNIC MARKET

Canadian food patterns are influenced as much by the food preferences brought by immigrants from their home countries, as by exposure of the general population to different foods and methods of preparation. This exposure is supported by:

- * the proliferation of ethnic food restaurants;
- * the availability of imported and exotic foods in grocery and specialty stores;
- * the development of ethnic foods produced locally which are migrating into the mainstream;
- * the opportunity to learn about new recipes and food preparation through the media (e.g. cable TV, celebrity chefs, newspaper features, and specialty magazines), the Internet, cooking schools, cookbooks, and food fairs; and,
- * a growing awareness of the health benefits of following certain diets or consuming specific foods common among some ethnic cultures. Examples include olive oil (Mediterranean influence), red wine (French influence), fish (Asian influence), and meatless dishes (Indian diets).

Canadians are increasingly exposed to different cultures through work, school, friendships, mixed marriage, and travel. With globalization, attitudes toward trying new foods are becoming more adventuresome and open. The food experience continues to be a focal point of social and family gatherings, particularly at home, supported by the social trend to “cocooning³⁹” typified by the kids-at-home lifecycle stage. Many consumers are willing to pay for higher quality and diverse ingredients for these special meal occasions. Even inter-provincial migration due to job mobility is having an impact on “east meets west” food traditions in Canada... poutine available in Alberta being a case in point.

³⁹ “Cocooning” was a term coined by American author Faith Popcorn in the 1990’s.

Two food trends, diversification and fusion, had emerged by the millennium. Diversification is represented by the proliferation of distinct foods, specialty stores, and restaurants focused on traditional ingredients, recipes or types of cuisine. Fusion is combination of two cuisine types or ethnic styles. A newer wave, “blended cuisine”, takes fusion one step further. Chefs create blended dishes by focusing on a specific flavour or ingredient and building a dish around it, while consumers blend food concepts (i.e. Greek quesadilla or the chicken enchilada quiche). The most frequently blended cuisines are Asian, Mexican and Mediterranean⁴⁰. Increasingly, the more creative chefs are participating in organized events and expert opinion research to identify hot new trends in the food industry.

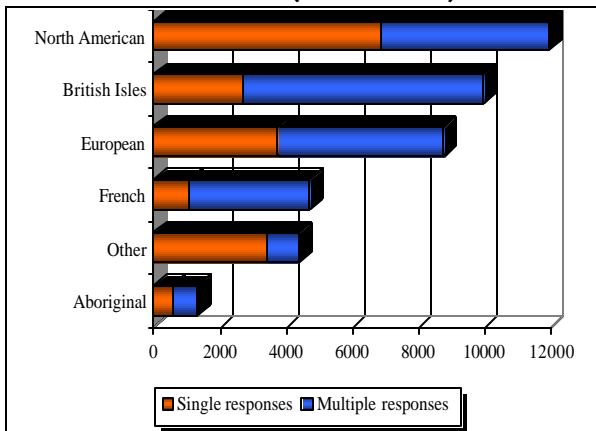
3.1.1 A Melting Pot or the Canadian Mosaic?

While our population continues to be reflective of British, European and French ancestry, increasingly, many residents (about two in five) are simply declaring their ethnic origin as “Canadian”, suggesting a movement to a “melting pot” profile, at least among Caucasians, not unlike the United States (Figure 3.1).

In 2001, 13% of the Canadian population was considered to be a “visible minority”, up 2% from 1996, and a four-fold increase over 1981 (Figure 3.2). These citizens may have been born in Canada or were new immigrants to this country. The changing face of the Canadian population has been projected forward to 2017, at which time, visible minorities will have grown to nearly 21% of the population. The South Asian population is expected to increase the fastest.

⁴⁰ “Culinary Professionals Identify What’s Next in Food Trends”, www.FoodProcessing.com, April 15, 2005.

Figure 3.1: 2001 Ethnic Origin of Canadians (Thousands)

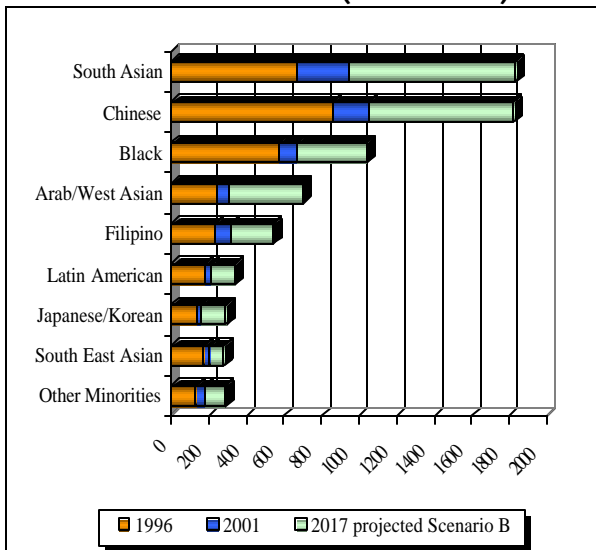


Single response mean that the respondent only declared one ethnic origin, multiple means they declared more than one. Overall, 62% of the population declared just one ethnic origin in 2001 and 38% declared multiple origins. The sum of the bars exceeds the total population (30 million) because of multiple responses.

“North American” includes 11.7 million people (both single and multiple mentions) or 39% of the population who identified their ethnic origins as “Canadian”, excluding aboriginal origins (Inuit, Métis and North American Indian). This was up from 31% of the population in 1996. In total, 23% identified their ethnic origin as Canadian and no other in 2001, up from 19% in 1996.

Source: Statistics Canada, 2001 and 1996 Census of Population, 20% Sample Data

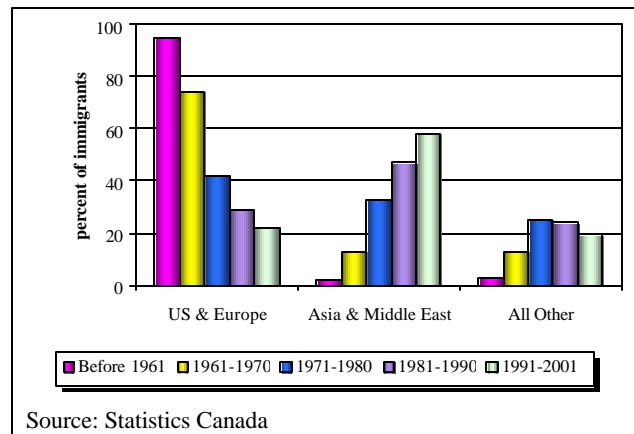
Figure 3.2: Trends in Visible Minorities in Canada 1996-2017 (Thousands)



Source: Statistics Canada: Population Projections of Visible Minority Groups, 2001-2017

The source of immigration to Canada changed dramatically over the last half of the 20th century. Historically, European nations such as the United Kingdom, Italy, Germany and the Netherlands, as well as the United States, were the primary sources of immigrants to Canada. Today, most immigrants come from Asian countries (most notably the People’s Republic of China and India) and the Middle East. Asian cooking influences are creeping in from other countries such as Japan, Thailand, Korea, Vietnam, Malaysia and Indonesia. In response, some of the ingredients now available in Canadian supermarkets include rice noodles, basmati and jasmine rice, coconut milk, gingerroot and curry pastes.

Figure 3.3: Immigration to Canada by Region of Birth



Source: Statistics Canada

Table 3.1 shows that in 2001, one in five Canadians (5.6 million) indicated that they were born outside of the country. Just over one million people, or about 4% of the total Canadian population, arrived within the five years prior to 2004. By 2017, it is projected that 22%⁴¹ of Canadians will have been born outside of the country, reflecting the increase in immigration and declining birth rates among second and third generation Canadians.

Diets vary greatly by continent of origin, as illustrated in Table 3.2, because the mix of foods consumed largely depends on economic conditions. Asian and African diets rely on cereals for caloric intake at double the rate of North America. Roots and tubers are an important food source in African countries. Not surprisingly, the North American diet is strongly influenced by British and European

⁴¹ Source: Statistics Canada: Population Projections of visible Minority Groups, 2001-2017, Scenario B

traditions, although we consume more calories from | sugar and rely less on cereal grains.

Table 3.1: Where New Canadians Come From

	% From Country of Last Permanent Residence 1999-2003	5 Year Change in Number of Immigrants ² %	Main Food Influences in Canada
Asia	61	+31	Chinese, Indian and Middle Eastern
Europe	18	-3	UK (meat and potatoes) Italian, French, Mediterranean, Eastern European
Africa	9	+63	African and Moroccan
North and Central America, Oceania	7	+11	Fast Food Hispanic (Tex/Mex)
South America	4	+123	Spanish/ Mediterranean
Australia	<1	+39	Insignificant
Thousands Immigrating 1999-2003 ¹	1,118	+27	

¹ 2003 Preliminary, includes landed immigrants only

² Percent change in absolute numbers of immigrants – 2003 over 1998

Source: Canadian Immigration by Country of Last Permanent Residence, January-December 1997 to 2003, Citizenship and Immigration Canada

Table 3.2: Contribution of Food Groups to Global Diets

% of Calories from Food Group 1999-2001

	Cereals	Roots and Tubers	Meat, Poultry and Offals	Vegetable Oils and Fats	Sugar and Sugar Products	Milk and Cheese	Other ¹
North America	23	3	12	15	17	10	20
Europe	31	5	11	12	11	9	21
Asia	56	4	7	8	6	3	16
Africa	50	14	3	8	6	3	15
Latin America	36	4	10	10	17	6	17

Rows add to 100%

¹ Other includes fruit, vegetables, pulse crops, nuts, fish, eggs, alcoholic beverages, etc

Source: Food and Agriculture Organization of the United Nations

Profiles of the food traditions that will most influence the Canadian cuisine in the early part of this century follow.

A Profile of Chinese Food Traditions

Chinese food is characterized by three distinct styles, representing different regions from mainland China, to Hong Kong, Taiwan and Singapore:

Peking Style: Northern and north-eastern regions of China. Favours steaming and poaching; wheat flour dishes are popular and rice is reserved for special occasions.

Cantonese Style: stir fried or steamed, featuring fish and seafood because of the proximity to the sea in the south

Szechwan-style foods are spicy and oily, featuring hot pepper and pepper sauces.

The traditional diet is based mainly on rice, noodles and fresh vegetables. Soybeans are a staple and meat and fish are reserved for special occasions.

Dairy products have not traditionally been popular, although cheese and ice cream are gaining acceptance; soy milk is preferred to cow's milk.

Pork, poultry, lamb and mutton are the preferred meats, often pickled, barbecued or stir-fried. Beef is rarely eaten.

Peanut and corn oils are preferred, and flavouring usually comes from sauces like soy, shrimp paste, plum sauce, oyster sauce, hoisin sauce and bean paste which add variety to dishes.

Tea is the most popular beverage.

The evening or family meal is the most important meal of the day. Large gatherings or special occasion meals are more often consumed at a food service establishment, than prepared at home. Street vending is also popular.

Source: "Influence of Immigration on the Ethnic Food Market in Canada". Ottawa: Agriculture and Agri-Food Canada, Food Bureau, October 2001.

A Profile of South Asian Food Traditions

South Asian food influences stem from the countries of India, Pakistan, Bangladesh and Sri Lanka, but are largely directed by the religious traditions of Hinduism, Sikhism, Buddhism, and the Muslim faith.

Traditional diets are dependent on grains such as rice, wheat, corn, millet and barley, legumes such as lentils and chick peas that provide protein, and some fruits and vegetables. Fruits and vegetables are rarely eaten fresh; most are pickled or processed into chutneys and condiments.

Dairy products, including milk, yogurt and buttermilk are popular, especially among vegetarians.

Goat, lamb, buffalo and chicken are the most popular meats, frequently barbecued or curried. Consumption of beef and pork is dependent on religious affiliation.

Vegetable oils are popular, but clarified butter or "ghee" is preferred by those who can afford it.

Many South Asians have a sweet tooth; desserts are often purchased rather than home-made and use milk or rice as the base.

There is also a taste for spiced, salted and sour snacks.

Source: "Influence of Immigration on the Ethnic Food Market in Canada". Ottawa: Agriculture and Agri-Food Canada, Food Bureau, October 2001.

A Profile of Middle Eastern Food Traditions

In Canada, most immigrants of Middle Eastern origin come from Egypt, Iraq, Jordan and Lebanon outnumbering those of West Asian origin (Afghanistan, Armenia, Iran, Israel, Kurdistan and Turkey) by about two to one.

Locally grown wheat, legumes, fruits, vegetables and olives are typical.

Pita bread is dipped in sauces or filled with meat, legumes or vegetables.

Lamb and mutton are the most popular meats, although chicken has gained in recent years. Beef, veal and turkey are also consumed, while fish and seafood are popular along coastal areas.

Dairy products, mainly yogurt and cheese, are most often made from sheep or goat's milk.

Nuts and seeds, particularly almonds, pistachios, pine nuts and sesame seeds are eaten as snacks or as a main dish ingredient.

Olive oil is the fat of preference.

Processed foods and animal products are often associated with wealth and westernization.

Those of Middle Eastern origin spend a higher proportion of their food dollar in specialty food stores, relative to other immigrants.

Source: "Influence of Immigration on the Ethnic Food Market in Canada". Ottawa: Agriculture and Agri-Food Canada, Food Bureau, October 2001.

In the early years of the 21st century, Asian influences were eclipsing the previous trend to hit Canada. South-western and Mexican cuisine were popular in the 1980's and 1990's through the influences of north-south trade and tourism activity. The Hispanic population will grow to 56.3 million in the US by

2025 and that group had an estimated purchasing power of \$300 billion US in 2005, a rate that grew at twice the pace of the general population in that country⁴². With the focus of American marketers on the Hispanic culture expect to see a resurgence and broadening of this influence in Canada, supported by continuing trade and tourism activities with these countries. Hispanic cultures encompass Mexico, Latin America and the Caribbean, representing such diverse countries as Guatemala, El Salvador, Puerto Rico, the Dominican Republic, and Cuba. Many popular Hispanic foods, such as bean and rice dishes and tropical fruits, also fit with the healthy eating movement.

Building on this trend, indications are that South American cuisine may be the next wave to hit, with ceviche bars (uncooked seafood marinated with lime juice and chiles, following on the sushi bar tradition) and Brazilian restaurants featuring churrasco (a variety of skewered, grilled meats) already popping up in the United States.

A Profile of South American Food Traditions

There are four gastronomic regions in South America

Northwestern South America (the Andean regions of Ecuador, Bolivia and Peru) represents some of the most exotic foods on the continent. The potato and the highly nutritious grain called quinoa originated here. Peru boasts over 100 potato varieties and is known for some of the spiciest food in South America. A fiery yellow chile pepper called aji amarillo is used in everything from caucan (seafood stew) to papas a la huancaína (a spicy, cheesy potato salad).

Spanish influences are evident in North Central South American (notably Colombia and Venezuela). Food has a Mediterranean flavour, incorporating spices such as cumin, oregano, cinnamon and anise, fresh orange and lime juices, olive oil and wine. Many dishes such as tamales contrast sweet and sour tastes. Spanish rice complements Venezuela's excellent seafood in paella.

Southern South America (Argentina, Chile, Paraguay and Uruguay) is typified by beef; asados (large cuts, campfire roasted) and parrillada (thick, oak-grilled steaks).

⁴² International Dairy Deli Bakery Assn.

Accompaniments are simple but flavourful; tomato, onion, pepper relish, a pesto-like parsley, garlic and vinegar sauce called Chimichurri, and Paraguayan corn bread. Coastal Chile is famous for its seafood and eel soup.

Brazil's cuisine is a meld of Mediterranean influences brought by Portuguese settlers, foods like okra, yams, peanuts, chile peppers and palm oil from African slaves, and native exotic tropical fruits and vegetables such as mandioca (cassava root), maracuja (passion fruit), and caju (cashew fruit).

Source: Cooking Light Magazine, 2005

African and Moroccan influences are also indicated.

A Profile of African Food Traditions

There are so many countries, regions, climates, languages, cultures and traditions in the African continent, that it is a challenge to describe a typical cuisine. African food is strongly influenced by local availability of foodstuffs, but also by British and European, Asian and Middle Eastern immigration and trade.

Common themes and ingredients include:

Slow simmering soups, stews and sauces;

Exotic spices and flavourings such as garlic, Melegueta pepper, cloves, cinnamon, nutmeg, turmeric, curry and cardamom;

A diet rich in tubers and root vegetables, such as yams, sweet potatoes and cassava;

Grains including millet, sorghum, rice and corn, often baked into flatbread or served in a mush;

Peanuts (called groundnuts), other legumes such as black eyed peas, and lentil;

Fresh fruit and vegetables including melons, gourds, okra, plantains, greens, coconut, breadfruit and lemons; and

Palm, peanut or coconut oil.

While chicken, pork and beef are the most popular meats, as with fish along coastal areas, game such as venison is also consumed. Meat is more often used as a flavouring or secondary ingredient, with starch as the main base.

Source: www.africaguide.com/cooking.htm

Increasingly, new arrivals are attracted to Canada's three largest metropolitan areas, Toronto, Vancouver and Montreal, accounting for about three quarters of immigrants' destinations. Other urban centres such as Calgary and Edmonton are also becoming popular destinations, given the economic growth prospects in Alberta. Identifying niche market opportunities for targeting ethnic populations with specialty foods necessitates an understanding of the concentration of each of these populations in select Canadian communities, as well as demographic differences such as family size, median age, household spending on food (total expenditure, spending for specific food categories, and spending patterns through food service by meal occasion, supermarkets or specialty stores. For example, non-European immigrant families are typically larger than those of longer term residents of Canada, and Asian households tend to be represented by a larger proportion in the heavier eater age group, aged 15 to 64.

3.1.2 Faith and Food

Religious influences also play a key role in defining food preferences (Table 3.3). Non-Christian denominations are expected to increase from 6% of the population in 2001 to about 10% by 2017. Those following the Muslim religion will grow the fastest to about 4% of the population (1.4 million persons).

An opportunity for Halal products produced in Canada has been identified by Agriculture and Agri-Food Canada. In a 2002 market report, it was estimated that the world's Halal food trade was about \$150 billion per year. Approximately 15% of Canada's federally inspected cattle slaughter and 35% of calf slaughter was produced in Halal certified establishments. Domestic markets were identified as major urban centres in Ontario, Quebec and Alberta, and the east coast of the US. The increased demand for Halal products in the Middle East, North Africa and Southeast Asia represent export opportunities, particularly to countries such as the United Arab Emirates, Egypt, Malaysia, and Indonesia. Halal certification is required, and export regulations, as defined by the Canadian Food Inspection Agency and the importing country must be followed. Acceptance by foreign markets of beef slaughtered in Canada and Europe following the discovery of BSE (bovine spongiform encephalopathy) must be monitored, if exports are to be considered. Finally, consumer

directed advertising to create awareness, competitive prices, consistent availability, and absolute confidence in the Halal nature of the products are the key success factors to penetrate this market.

Kosher foods, another market niche, have expanded in Canada, not because of an increase in the number of those of the Jewish faith (the percent of those of the Jewish faith in the population is actually declining), but because of such reasons as:

- * increased religiosity among Jews;
- * concerns about food safety and a perception that Kosher foods are produced to a higher standard;
- * increased availability of Kosher certification (symbol labelling) as food manufacturers seek to expand their markets. Estimates suggest that half or more of packaged grocery goods are kosher and national brands such as Coke, Kraft and Heinz have obtained Kosher certification; and
- * assurance of the ingredient base, for example meat or milk free products if labelled as such, that address other religious beliefs similar to those of Orthodox Jews (Muslims, Seventh Day Adventists and Jehovah's Witnesses), philosophies such as vegetarianism, or the dietary condition of lactose intolerance. It is important to note that the Kosher meat slaughter process is not the same as the Islamic rite of Halal.

The market for Kosher foods is very concentrated in the major urban centres, particularly Toronto and Montreal. Many stores in these cities have whole sections devoted to Kosher products. In other locations, Kosher products are harder to find or may only be brought in around Passover in the spring.

General market trends toward convenience, portability, snacking and healthy eating apply equally to Halal and Kosher foods.

Table 3.3: Religious Influences on Food in Canada

	% of 2001 Population	10 Year Change 1991-2001 %¹	16 Year Projected Change 2001-2017 %¹	Food Traditions
Christian	77	+2	NA	Meatless Friday was abandoned by Catholics in the 1990's but it may still be followed during lent. Fish on Fridays continues to be a tradition in some households.
Muslim	2	+129	+145	Do not eat pork, blood, carnivorous animals, birds of prey, or land animals without external ears. Do not consume alcohol or intoxicants. Meat slaughtered following Halal procedures.
Jewish	1	+4	+10	Do not eat shellfish, meats like pork or certain cuts of permitted meats (permitted meats are from animals with cloven hooves and chews its cud), birds of prey/scavenger birds, or blood of any creature. Do not prepare or consume meat and dairy together. Meat slaughtered following Kosher procedures. Leavened foods restricted at Passover.
Buddhist	1	+84	+36	May avoid eating meat out of a general respect for life.
Hindu	1	+89	+92	Do not eat beef which is considered the sacred incarnation of God. May avoid flesh and foods that have the seed of life (e.g. eggs, all meat). May avoid alcohol.
Sikh	1	+89	+71	Abstain from beef. Pork is permitted. Alcohol is prohibited.
Eastern/ Other Religions	<1	+56	NA	Varies.
No religions affiliation	17	+45	NA	Not applicable.
Total Population	100	+10	+13	

¹ Percent change in absolute numbers of religious group. (Scenario B).
Source: Statistics Canada, 2001 and 1991 Census of Population and Population Projections of Visible Minority Groups, 2001-2017

3.1.3 Travel and Tourism

Canadian tastes are not only influenced by ethnic origins and exposure to new foods at home, but by travel whether for business or pleasure, which expands one's cultural and food experiences. A whole leisure travel industry around the food

experience is blooming – from gourmet cooking classes in Tuscany, to tours of the best restaurants in Paris, to promotion of agri-tourism in local rural communities. A significant reason for leisure travel continues to be visiting friends and relatives,

however, which tends to limit opportunities to experience new foods.

As trade opens up and certain ethnic populations grow within Canada, so will travel to and from that country of origin. Mainland China is a perfect example, where Canadians made 115,000 visits to that country in 2003 and received 77,000 visits.

Canada-US travel tops the list with about 15 million visits to the United States annually, and a similar number of visitors received from that country. Hundreds of thousands of Canadians also visit countries such as Mexico, the United Kingdom, other western European countries, and hot climate destinations like Cuba and the Dominican Republic. Travel to Mexico has, and will continue to influence acceptance of Mexican dishes such as salsas, and corn and bean-based products.

International travel destinations by Canadians and countries of origin of visitors to this country are affected by such factors as trade, terrorism, military action, disease outbreaks, natural disasters, and currency exchange rates. Current conditions will always have an influence on travel patterns.

3.1.4 The Ethnic Opportunity

The opportunity for the Canadian industry is to be proactive in responding to the evolving demand for ethnic foods, rather than allowing imported products to dominate. Opportunities are presented to the primary sector in terms of the provision of specialty meats (such as lamb, goat, veal, game and fish farming) and providing attention to slaughtering methods. Another opportunity relates to the supply of Canadian grown pulses such as lentils, chick peas, soy, and all kinds of dried beans (great northern, navy, pinto, kidney, fava, lima, adzuki, black beans and others). Incorporation of flavourings, herbs and spices, especially chile and curry is a must.

Old/New Flavour Sensation

Creating flavours that "wow" will be more than just adding heat; it will include layering flavours, and creating sensation....a sense of intensity and tingling. One flavour sensation we may hear more about is "umami", a term identified more than a thousand years ago in Asia, but nonetheless "new" to western chefs. Often referred to as "the fifth taste" (joining sweet, salty, bitter, and sour), the Japanese concept embodies the quality of being savoury.

Source: Don Montuori, Acquisitions Editor, Packaged Facts, a division of MarketResearch.com.

The possibilities for food processors and the food service industry are considerable. One need only look to the food practices and products in Asian and Latin American countries, for example, to identify the opportunities, keeping in mind that the ethnic market has a strong affinity for that which is familiar. Price and quality advantages could be offered by local suppliers, with distribution through specialty stores and restaurants located in the major urban centres. Attention should be given to understanding demand peaks associated with ethnic holidays and religious observances. Market awareness could be created by introducing these products through local fairs and cultural events, restaurants, specialty stores and farmer's markets, supported with recipe distribution and endorsements from celebrity chefs and food writers. Export potential, particularly to the United States, the Middle East, North Africa and Southeast Asia, is also evident.

3.2 THE VEGGIE MOVEMENT

It is somewhat difficult to get a handle on the penetration and shifts in vegetarianism in the Canadian population. There are many forms of "vegetarianism":

- * strict vegans who eat no animal products;
- * lacto/ova vegetarians who include dairy and eggs in their diets but no meat. Variations of this type are those who consume one or the other of eggs and dairy but not both;
- * so called "flexitarians":
 - non "carnivores" who avoid red meat, may eat chicken, but do consume fish or seafood;
 - "exceptors", those who will eat meat on special occasions (e.g. turkey for holiday dinners), or tolerate some "hidden" animal products in ingredients or prepared dishes (everything from gelatine, to broth, to anchovies in Worcestershire sauce); and
 - "trenders", those who more frequently choose non-meat alternatives, such as pastas, bean dishes, soy products, and veggie-burgers.

A sub set of vegetarians eat only raw foods, believing that the nutritional value is better because some enzymes and vitamins can be destroyed in the cooking process.

Some reasons for pursuing a vegetarian lifestyle stem from:

- * moral, religious or cultural feelings toward the sanctity of life;
- * concerns with ethical treatment of animals on farms and in the slaughter process;
- * negative perceptions of meat quality or handling in the fast food sector;
- * simple taste preferences;
- * weight management;
- * a general belief in the health benefits of a diet high in produce, grains and legumes; and
- * affordability relative to a diet high in meat.

According to a 2004 survey, the penetration of “self-defined” vegetarianism is at about 8% of Canadian households (survey respondent or other household member). In an average week, 8% said they ate no red meat, 1% no white meat and 3% said they were vegetarian or vegan.⁴³ Another source identified that 5% of Canadians said they never prepare fresh or frozen meat, poultry or fish at home, which doesn’t preclude them from eating it entirely.⁴⁴ Estimates from the US suggest that perhaps 2-3% of the population are true vegan but up to 30-40% actively seek out meatless alternatives, at least occasionally.

Vegetarians or those who follow a vegetarian lifestyle are more often women who work outside the home, in their late teens or twenties, who exercise regularly, and who live on the west coast. Universities and colleges are noting distinct demand for vegetarian foods in their cafeterias and food courts, where this lifestyle choice helps to define a persons’ image and values to their peers. Potential for moving vegetarian products into high schools is also indicated. Vegetarianism is more often practiced by Asian cultures and Buddhists and growth of these cultural groups in Canada due to immigration supports an upward trend in vegetarianism.

⁴³ Ipsos-Reid, “Consumer Perceptions of Food Safety and Quality, 2004”.

⁴⁴ Serecon Management Consulting Inc., “2004 National Consumer Food Safety Survey”

The adoption of non-meat alternatives among the “flexitarians” has largely been driven by the increasing availability of convenient forms of these products. Frozen meat substitutes such as heat and serve pastas, and soy milk are two examples of high growth products in this category. Tofu and meat analogue products, popular among vegetarians, while still a very small category (only about 1% of retail sales of fresh and frozen meat), experienced a 50% increase in retail grocery store sales in Canada between 2000 and 2003, according to ACNielsen.⁴⁵ Soy products have traditionally been rejected by meat loving carnivores, but processing technologies are evolving to improve the quality of meat substitute products. For example, textured soy protein that mimics meat protein and can be used as a base ingredient in any recipe or processed food has been developed.

Schneiders Foods Oh Nature!™ Line

Schneiders Foods of Kitchener, Ontario, long known for its deli meats and hams, introduced a line of soy-based meatless products in 2005. Not just for vegetarians, the refrigerated and frozen line of strips, burgers, nuggets, wieners and meatballs is designed to replace meat for healthier eating among mainstream consumers. The products will be offered along side Schneiders’ traditional meat lines, building on the company’s reputation for quality meats. The line offers such benefits as high fibre, low fat, low or trans-fat free, and low sodium and is a good source of protein.

3.3 SMALL INDULGENCES

Social values research suggests that the children of the baby-boomers are looking for more balance in their lives. They see the benefits of not working as hard as their baby-boomer parents, and are prepared to moderate the goal of previous generations to do better than their parents or grandparents. Liberal attitudes toward credit and immediate gratification among younger Canadians run opposite to the penny pinching behaviours of their grandparents who lived

⁴⁵ “Annual Canada Consumer Expenditure Study Food Grocery Products (2003), Prepared for Agriculture and Agri-Food Canada”. Toronto: ACNielsen, March 2004.

through the depression of the 1930's. These trends are manifested in the food industry by a willingness to spend on small indulgences like expensive coffees, and small quantities of quality specialty foods, rather than saving for big ticket items. For the baby-boomers indulgence will be in the form of higher calorie comfort foods and nostalgia brands, consumed less frequently and in lower quantities.

Small indulgences are also seen as a reward for hard work, exercising more, or sticking to a diet plan. They offer excitement to menus and are a real form of entertainment, spurred on by celebrity chefs and the media.

Especially when it comes to social meal occasions, "fast and lots" is moving over for "slow food", a more traditional way of food preparation and dining, incorporating smaller quantities of very well prepared, high quality, fresh food.

These trends present opportunities for quality specialized foods and boutique food stores that will challenge the dominance of national brands. Differentiated luxury and gourmet foods that excel in taste and pleasurable properties but also offer benefits like health or all natural will succeed in this sector. For example, soy chocolate was introduced in 2005 by some of the major candy manufacturers.

3.4 WHAT'S GROWING AND WHAT'S SLOWING

There are literally thousands of food products available to consumers and new products are being introduced all the time. Appendix C highlights some of the growing and declining trends in specific food by meal occasion at the turn of the millennium.

3.4.1 Preference Shifts by Meal Occasion

As Table 3.4 shows, home preparation and dining-in continue to be the norm in Canada, with the exception of lunch. Skipping meals, particularly breakfast and lunch, is trending upward, while

snacking, grazing and nibbling is supplementing or even replacing these meals. The traditional lunch or evening meal dessert is more often satisfied with a mid-afternoon or evening snack. Snacks are, by their nature, convenient. Meal patterns are evolving to smaller portions and more frequent eating throughout the day. Snacks are trending away from traditional salty and sweet treats to fruit, vegetable, and grain-based items. Products like individually packaged fresh-cut celery and carrots and dip, fruit and yogurt, dried fruits and nuts, and even whole fresh fruit are gaining in popularity. These shifts are due to the recognition of health risks from trans-fats and salts and avoidance of refined carbohydrates and their associated calories, typical of traditional salty and sweet snacks.

**Table 3.4: 2003 Venue Distribution and Five Year Trend¹
% of Meal Occasions**

	Breakfast	Lunch	Dinner	Snacks
Prepared and Eaten at Home	81 =	52 =	71 +	68 -
In Home – Home Meal Replacement	0 =	NA	5 =	NA
Carried from Home	1 -	16 -	1 -	12 +
At Restaurant	2 =	10 +	10 +	7 =
From Restaurant	1 =	2 =	4 =	1 =
All others – Away From Home	3 =	8 -	7 =	12 -
Skipped	12 +	13 +	4 =	NA

¹ = no change or fluctuating change, + increasing, - decreasing. Changes, if occurred were typically no more than 1 or 2 percentage points.
Source: NPD Group, NET Canada – 12 Months ending March 2003.

The breakfast market is being driven by convenience options such as quick and easy take along instant packets and bars and the nutritional value of hot cereals, particularly oatmeal, which is also recognized as a functional food.

The trend at lunch time continues away from burgers and fries toward sandwiches, and not just the basic ham and cheese. Specialty breads, fresh and roasted vegetables, a variety of meat based and non-meat fillings, complemented by flavourful seasonings and sauces, provide a healthy, quick and reasonably priced meal, whether taken from home, picked up, or eaten in a restaurant. Crackers and cheese are also

gaining in popularity as a fast, easy and portable alternative.

The traditional meat, potato and vegetable dinners remains the norm, although lighter and quicker

options such as fish, sandwiches and complete pasta dishes continue to make in-roads. Fat reduction and elimination of desserts are the focus at dinner time.

4.0 IT'S ALL ABOUT CONVENIENCE

It's no surprise that sales of prepared foods are on the rise. In 2001, 10 cents of every food dollar spent in stores went to convenience items, up from just 6 cents twenty years earlier. This category includes a wide variety of items from frozen pre-cooked dinners and baked goods, to peanut butter, potato chips, soup and baby food.⁴⁶

Frozen food sales jumped by a third, and deli products (excluding cheese), salad bars and prepared foods for takeout increased by over 30% between 1998 and 2003, almost double the rate of increase in overall retail food and beverage spending.⁴⁷ Over half of dinners consumed in Canadian homes in 2003 included a prepared or semi-prepared item as part of the meal, up 6 share points from 1999⁴⁸.

Consumers simply want to cut down their food prep and cooking time. They are often "on the go", accelerating the eat on the move snacking trend referred to as "Dashboard Dining", or are too tired to cook an evening meal. As each generation spends a little less time in the kitchen, the passing down of traditional food preparation methods gradually slips away.

Some of the societal trends driving convenience follow.

4.1 CHALLENGING THE NOTION OF THE TRADITIONAL FAMILY

Canada's traditional view of the family as a married mom and dad with a couple of children, is

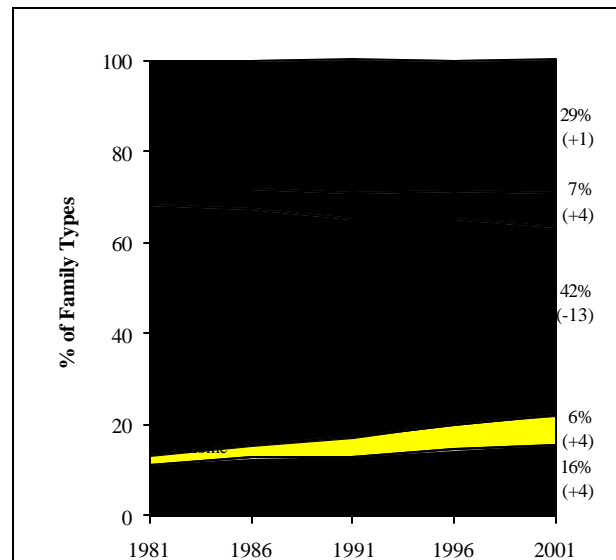
⁴⁶ Statistics Canada: 2001 Food Expenditures in Canada

⁴⁷ Source: Retail Commodity Survey (includes stores and restaurants)

⁴⁸ "Attitudes to Food in Canada, A Summary of Nutrition Survey Findings and Links to Consumer Behaviour". Toronto: NPD Group, May 2004.

changing. With the aging population, declining birth rates and an increase in common-law relationships, couples without children at home grew to 36% of the family types, up 4% over the last two decades of the century. Lone parent families also grew by a similar rate during this period to nearly 16% of the families. Couples with children declined accordingly to 49%.

Figure 4.1: Change in Distribution of Canadian Family Types in Private Households 1981-2001



Children at home refer to families with at least one child under 25 years of age.

No children at home may include children aged 25 and over in that household.

2001 values are presented to the right of the graph, with change over 1981 in brackets i.e. in 1981, 12% were lone parent families.

Source: Statistics Canada, Census of Population

The number of Canadian households rose faster than the population, due to more people living alone and an over all trend to smaller household sizes. One and two person households represented about three of every five households in 2001. The number of one person households grew at double the rate of overall household growth in Canada between 1996 and 2001. The average size of

Canadian households appeared to have levelled off by 2001 to 2.6 persons, following steady declines from 2.9 over the prior two decades. Historically, the east has had larger households than the west, but the differential in average household size from east (Newfoundland/Labrador) to west (British Columbia), shrunk from .9 persons in 1986 to just .2 persons in 2001. The trend to one-person households means more dependency on convenience items and less dependency on “meat and potatoes scratch” cooking.

Table 4.1: Household Size

Number of Persons in Household	Percent of Households In 2001	5 Year Change in Number of Households ¹ %
1 person	26	+14
2 persons	33	+10
3 persons	16	+3
4 persons	16	No change
5 persons	6	-2
6 plus persons	3	No change
Thousands of Households	11,563	+7
Average household size	2.6	No change

¹ Percent change in absolute numbers of households – 2001 over 1996
Source: Statistics Canada, 2001 and 1996 Census of Population

The trend to more one and two person households is at least partly due to lower fertility rates in recent decades. During the post World War II baby-boom in Canada, the total fertility rate peaked in 1959 at 3.935 births per woman. By 2001, this rate had fallen to a record low of 1.511 births. Not only are contemporary Canadian women having fewer children, they are also having their first child at a later age. One-third of first births in 2001 were to mothers aged 30 and older. A decade earlier, only one-fifth of births were to this age group. Fewer children in the household mean vastly different eating habits; lower milk consumption being the obvious one. Meals also tend to be less traditional.

There has also been a large increase in childless couples and, as the baby-boomers age, there are a higher number of empty nester couples and seniors

living alone. This decline in household size is offset by immigrant families (over 220,000 persons are added to the population each year) that have a tendency to have larger households, but more so, by the growing tendency for all young adults, aged 20-29 to remain in (or return to) the parental home.

In 2001, 41% of young adults aged 20-29 lived with their parents, a dramatic rise from the 27% in 1981. Explanations for this shift include: delayed first marriages; falling marriage rates overall; more common-law relationships which dissolve at a higher rate than marital unions; immigrant households in which children may remain with parents longer; the pursuit of post-secondary education; and the difficulty finding jobs. Evolving food preferences of adult children (younger people are more prone to try new foods) might in turn influence the eating patterns of their parents. At the same time, multiple meals of fewer servings might be consumed each day, in response to conflicting schedules, the diverse tastes of household members, and opportunities for adult children to take more responsibility for their own food purchases and meal preparation. They have grown up in a time when convenience foods are norm. New food preparation and packaging technologies have supported the explosion of the convenience and processed food options available. Home preparation of foods has declined in favour of eating out, therefore there are fewer opportunities for young people to observe and participate in food preparation in the home.

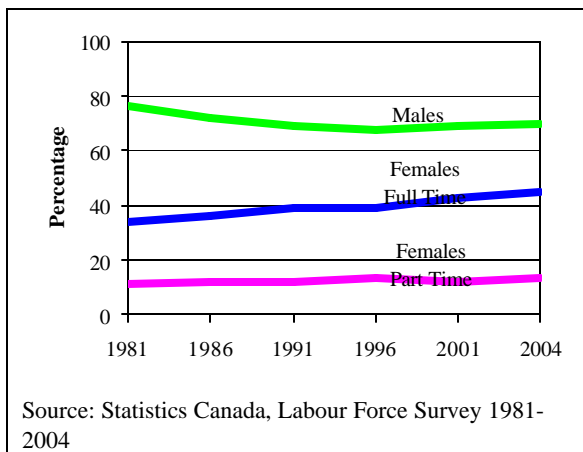
4.2 THE EVOLVING WORK FORCE

Participation in the workforce among adults over 25 years has shifted somewhat. In 2004, 70% of males were employed, down from 76% in 1981. The percentage of women working part-time (less than 30 hours per week) was fairly stable at about 12-13%, however full-time employment by women was at a 25 year high of 45%, up 11% from 1981. Overall, 58% of women were employed full-time or part-time in 2004.

Throughout the 1990's, women were making inroads in many "non-traditional" areas, particularly

in highly skilled occupations. They accounted for more than one-half of the growth during the decade in those occupations which normally require a university education. Their numbers doubled in information technology occupations and more than doubled in professional occupations in business and finance. Women managers increased by more than 40% over the decade. A study by CIBC World Markets (released June 28, 2005) reported that the number of self-employed women had risen 50% since 1990 to more than 800,000, and is expected to reach a million by 2010.

Figure 4.2: Participation Rates of People 25 Years and Older in Canada's Workforce



Participation of women in the workforce, and particularly in less traditional roles, has meant less time available for meal preparation, and more involvement by males in this process. Nevertheless, studies have shown that mom still rules the kitchen when it comes to meal planning and preparation. Parents with children play a juggling act with work, daycare, school, and transporting children to various activities. In spite of trends toward shift work, less structured contract work, combinations of part-time jobs, and in some regions, longer work weeks, families still like to sit down together for the evening meal. This may be less true for breakfast. Higher participation of women in the workforce may also mean more disposable income among dual working adult households, and therefore more discretionary spending on food. Convenience foods available at the grocery store, including home meal replacements (HMR's), semi-prepared foods, and quick-to-prepare microwavable foods, respond to these changes. Whole stores devoted to the "pick-

up" market are entering the marketplace in larger urban centres, catering to those who don't want to cook, don't have the time, or don't know how to, but want an alternative to traditional fast food without paying the high cost of restaurant service including tips.

An interesting phenomenon has been an evolution of working from home among the 15 million employed Canadians. Nearly a million people reported that they worked from home (excluding farming occupations) in 2001, or about 6% of the employed population, a rate that has been fairly stable through the 1990's but experienced real growth in the 1980's. Self employment, contract work particularly if semi-retired, and teleworking opportunities, supported by computing and communications technology, as well as changing attitudes of employers, have supported work from home. Women are somewhat more likely to work from home for pay than men. This suggests greater flexibility on the work day and less commuting time, which may support home food preparation amongst this segment of working adults.

Another trend evident in urban planning is "Live-Work". As Canadian cities grow, public transportation improves and attitudes toward environmental sustainability evolve, the day of the down town commute is predicted to wane in favour of living and working in close proximity. Pedestrian friendly communities are being encouraged, as is acceptance of small, fuel efficient cars. This may mean a return to smaller scale community based or en-route shopping, shorter meal planning cycles, and more frequent, quick shopping trips. Prepared and semi-prepared foods, a focus on freshness, and smaller quantities will be some of the responses to this trend.

The nature of work has changed dramatically over the past several years and is expected to continue to do so. The 1990's saw an expansion in people working in knowledge-based industries (representing 7% of the occupations by the end of that decade), implying more sedentary, technology dependent occupations and less opportunity to burn calories while on the job. Snacking while working is a fall-out from this shift.

As the population ages, the number of retired couples will increase dramatically, perhaps signalling a return to more traditional styles of meal

preparation and “scratch” cooking. Retiring baby-boomers will have a significant negative impact on the size of the labour market, especially as relatively small cohorts of young people will be entering it. Boomers, those aged 37 to 55 in 2001, made up 47% of the labour force. By 2011, half of the labour force will be over 55 and preparing for retirement. Trends are showing higher rates of older people, aged 55 to 69, remaining in the workforce. They are not being replaced as readily by the smaller Baby Bust cohort. People aged 25 to 44 edged down in absolute terms for a seventh straight year prior to 2004. Contract opportunities, flexible employers, and consulting work may delay complete retirement for some time and dispel the notion of early retirement. Boomers may wish to remain active and supplement their retirement income, particularly given longer life spans over which retirement savings must stretch. The poor stock market performance in the early years of the 21st century put a dent in private pension plans and retirement investments, perhaps necessitating delayed retirement for some.

4.3 THE CONVENIENCE FOOD OPPORTUNITY

Contrary to the growth in convenience foods and the behaviours that support their purchase, studies are showing that consumer attitudes toward convenience as a decision driver is taking a back seat to nutrition and taste. In fact, the stated intention to purchase convenient and prepared foods is on the decline. It could be that consumers would like to buy less prepared foods and spend more time scratch cooking because of nutritional concerns, but when push comes to shove, prepared foods win their share of the grocery cart. It could also be that with the maturing of the prepared foods category, consumers are simply expecting that great tasting, nutritional foods will be available in convenient forms. This represents the next level of product differentiation for the processed food sector.

■ “Blue Menu”: A Case Study

In 2005, the Real Canadian Superstores introduced a line of healthy prepared foods branded “Blue Menu”, under their very successful President’s Choice private label banner. The launch of some 80 convenience products (with more to come) was in response to the obesity issue as well as consumer research that told the Company that people intend to eat healthier but they want it to be easy for them. The line includes a host of prepared foods including juice, fruit spreads and snacks, dressing, sauces and condiments, cooking spray, snack crackers and rice chips, pasta entrees, instant soups, and flavoured soy powder mix. Low fat, low calorie and high fibre are key attributes. Asian influences inspire some of the prepared foods, with curry and ginger flavourings. The line is supported with a web site promoting health and wellness, recipes for scratch cooking, and information on understanding nutritional labelling. The company also engages in social marketing with their President’s Choice Children’s Charity, and targets kids with their “Mini Chefs” line of snacks and prepared foods.

Source: <http://www.presidentschoice.ca>

Looking ahead, the frozen and packaged food sector will face challenges in sustaining growth, as competition from convenient, “freshly prepared” options heightens. Kiosks, street vendors, drive-through, c-stores, casual dining, home-delivery, deli, and other foodservice outlets will offer the consumer choices unavailable in packaged food sector.

Consumers want to feel good about their convenience food choices. Therefore, more opportunities for some involvement in the food preparation process is indicated, including adding fresh ingredients to semi prepared, portion controlled bases, and the use of pre-packaged kits.

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5.0 THE EDUCATED CONSUMER: CONSUMER CONFIDENCE ISSUES IN THE NEW MILLENNIUM

5.1 FOOD SAFETY AND QUALITY

Food quality is a complex issue in the minds of consumers, and it means different things to different people. Freshness is increasingly becoming synonymous with quality, because it implies good taste, nutrition, and more natural (i.e. not processed). Food quality issues sit on a continuum in terms of impact on the purchase decision. While perceptions of freshness, nutritional value, ingredients, convenience, and value have the most immediate impact on choice, other attributes associated with food quality form part of the purchase decision. This includes all aspects of production and handling throughout the food chain, including confidence in Canada's regulatory system.

Consumers are becoming more and more aware of the quality issues surrounding food. At the same time, they are less likely to believe that well advertised products are "good" (that is, "good for you" not just "good tasting"). Many also feel that the best known brands are not necessarily the best quality, possibly because of the success of high quality private labels. This trend to safety and quality consciousness, is largely driven by media reports that in some cases sensationalize the scare of the day. At the time of writing, several food safety and quality issues were on the minds of consumers (in no particular order):

- * the risks of trans-fats;
- * food production and water safety (e.g. bioengineered crop varieties and livestock genetics, fertilizer sources and use of pesticides on crops or hormones and antibiotics in animal production, manure runoff, release of waste from fish farms into natural water sources, and

other environmental contaminants and pollutants);

- * processing techniques and quality standards (e.g. ingredients, cleanliness, storage, etc.);
- * food additives and preservatives (re: processed foods);
- * allergens and food labelling;
- * food borne pathogens or contamination due to poor cleanliness of food handlers or other sources (e.g., E. coli, hepatitis, salmonella);
- * animal, fish and bird diseases (BSE, Avian influenza);
- * freshness including toxins from moulds or spoilage due to improper storage, or storage beyond an acceptable time period;
- * presence of contaminants, ingredients and food dyes that are not approved for human consumption, including contaminants such as PCB's (polychlorinated biphenyls, dioxins) that have entered the food chain through feed; and,
- * tampering and bioterrorism

Food irradiation and the risks of acrylamides from fried foods (first identified as a food safety issue in 2002) barely hit the consumer radar screen in 2004

Acrylamides

Acrylamides are likely to become a more significant area of concern, however. A report, released by the Joint Food and Agriculture Organization and World Health Organization Expert Committee on Food Additives and Contaminants on March 2, 2005, concluded that at current levels of intake, acrylamide in food may be a human health concern, linked to cancer. The recommendation to consumers is to reduce consumption of deep fried and fried snack foods.

Source: Health Canada, March 2005

Canadians continue to have faith in the quality of Canadian food because of perceptions of high production standards and proximity to markets which ensures freshness. Nevertheless, this confidence is not guaranteed. In a 2004 study, about a third of Canadians were “completely confident” that food produced in Canada was safe, just over half were “somewhat confident” and about one in ten were “not confident”.⁴⁹ Those who were least confident were most concerned with the threat of animal diseases to human health. This is not surprising, given the outbreaks of BSE and avian influenza preceding this particular survey.

As a purchase attribute, the safety of the food supply has long been taken for granted in Canada. Studies have shown that food safety is not a top of mind consideration when purchasing food for the home or when dining out. As urban Canadians become further removed from the farm, the understanding of agricultural production erodes. In the minds of consumers, the responsibility for food safety and quality shifts to the processing, retail and food service sectors and their regulators. With the continuing and seemingly accelerating identification of issues and concerns in the media, consumers could become more uncertain about the safety of the food supply. Responses will range from scepticism in the integrity of our food system and active information seeking among one segment of consumers through to almost extreme complacency as others feel overwhelmed by the barrage of information or simply become desensitized to the crisis of the day. Ultimately though, to impact a purchase decision, consumers must feel a personal threat or a food production issue must hit a moral chord close to their hearts.

5.2 HOW OUR FOOD IS PRODUCED

5.2.1 The Organic Market

Organic food is grown under a production system that, in addition to the avoidance of synthetic fertilizers, pesticides, growth regulators and livestock feed additives, also promotes soil health, biodiversity,

⁴⁹ “Consumer Perceptions of Food Safety and Quality, Prepared for Agriculture and Agri-Food Canada”, Winnipeg: Ipsos-Reid Corporation, November 2004.

low stress treatment of animals and sound environmental practices. The use of genetically engineered crops, irradiation to preserve food, and sewer sludge is also prohibited. As such, there is a natural cross over between avoidance of some foods and a preference for organic products. Labelling that communicates production methods is a critical success factor for this market.

At the end of the 20th century, the organic market was estimated at about 1-2% of the total share of the retail food trade in Canada, and reportedly growing at a rate of about 15-20% per year. According to a 2004 study, about half of consumers said they purchased organic grains, fruits and vegetables in the past year, four in ten purchased free range eggs, and nearly an equal number purchased organic meats⁵⁰. The Canadian market is split almost equally into those who say they regularly buy organics, those who purchase them several times in a year, those who purchase them once or twice a year, and those who never purchase these foods.⁵¹ The incidence of more frequent purchase was trending upward over the prior four years, likely due to the increasing availability of organics.

While organic purchasers represent a cross-section of the Canadian demographic, the profile of heavier purchasers has been described as: female (including expectant mothers), better educated, higher income, somewhat younger (but all age groups are represented), and more likely to reside in British Columbia. There are two primary motivators to purchase organic products; one is a lifestyle and a philosophical commitment to the environment (more often a sub-segment of lower income consumers) and the other relates to personal health (more evident amongst higher income consumers and those with children). There is also a strong correlation between purchasing organic foods and concerns with specific food allergies. Gluten-free food options (to address celiac disease) also fall into this category. With the aging of the Gen Y’s over the next fifteen years, and the movement of that market into the group that controls the high consuming family purse strings, organics are likely to gain share. More health issues

⁵⁰ “Consumer Perceptions of Food Safety and Quality, Prepared for Agriculture and Agri-Food Canada”, Winnipeg: Ipsos-Reid Corporation, November 2004.

⁵¹ “Food Issues Monitor International Report 2004, International Public Opinion on Food from Production to Consumption”. Toronto: GlobeScan Incorporated, November 2004.

with aging baby-boomers also bode well for this market.

The purchasing of organic products is becoming main stream, and is no longer limited to so-called “natural” food specialty stores. Farmers markets also represent another outlet. Even so, many consumers are unclear on the meaning of “organic”, and confuse the term with foods labelled as “natural”.

The organic industry has a positive image in the minds of consumers; organic foods are believed to be safer and healthier than regular foods, and as such, a marginal price premium may be paid. A long-standing barrier to widespread acceptance of organic foods has been the unwillingness of consumers to pay a significant price premium. With wider availability and distribution efficiencies, the cost differential is becoming less of an issue. Many of the top food concerns (i.e. food safety, pesticides, pollution, antibiotic use, etc.) are perceived to be addressed by organic production methods, therefore these foods are thought to be good for the environment. There is a high level of consumer confidence in the Canadian food system in terms of managing organically produced food.

Whole Foods Market: A Case Study

Whole Foods Market, dubbed “the world’s leading retailer of natural and organic foods”, is headquartered in Austin Texas. In 2005, Whole Foods Market listed 167 stores on its roster, sales for the previous fiscal year at \$3.9 billion US, and 15-20% average annual realized and forecasted growth. Whole Foods Market has pursued an aggressive acquisition and merger strategy to expand its market in North America and the United Kingdom. The first Whole Foods Market in Canada was opened in Toronto in 2002, followed by a second location in West Vancouver. Spring 2005 signalled the opening of its third store in Oakville, Ontario, and more are likely to come.

Its product and marketing strategies have addressed:

- * *Offering high quality organic and natural foods in virtually all food and beverage categories. Foods sold are free from artificial preservatives, colors, flavours, sweeteners, and hydrogenated fats;*
- * *Where possible, sourcing foods from local suppliers;*

- * *Vertical integration with, for example, coffee and seafood processing;*
- * *Food service supply, catering and prepared take-out options;*
- * *e-Commerce;*
- * *Private label branding; e.g., “Authentic Artisan Foods”, a “Whole Kids™” line, and an “Organic Everyday Value™” line, tied to meeting the company’s rigorous quality and production standards;*
- * *Demonstrated commitment to a sustainable food industry; for example introduction of wind power energy to some stores;*
- * *Social marketing strategies, e.g. establishment of the “Animal Compassion Foundation” to promote animal welfare; and*
- * *Commitment to consumer information and education. Cook books and recipes are published. Sessions are provided on such topics as “World Cultures and Foods”, various health issues from arthritis to energy management; and sessions for special target groups like new moms.*

In June of 2003, Whole Foods Market became America’s first certified organic grower, following implementation of the National Organic Standards by the USDA the previous year. Whole Foods Market is a publicly traded company and has repeatedly been listed as one of Fortune Magazine’s best 100 companies to work for.

Source: <http://www.wholefoodsmarket.com>

Opportunities in organics include expansion from the traditional fresh fruits, vegetables and grain products to meat, dairy, prepared convenience foods, and snack items. Private label “organic” branding will also evolve as traditional grocers fight to retain market share of their higher margin products.

5.2.2 GE Foods

Consumer attitudes toward the safety and ethics of genetically engineered foods ebb and flow with the degree of media attention to this topic. Such attention has been mostly negative. When it comes right down to it, most consumers don’t really understand the technology, nor do they stop to think that the majority of processed foods produced in North America contain genetically engineered ingredients such as canola oil, soy or corn. Further, consumers

really don't care all that much about the production benefits associated with GE foods, unless they translate into a tangible consumer benefit. To date, this hasn't been demonstrated in the GE arena. While Canadians want to be more informed about the foods we eat, inconsistent labelling of GE products, and awareness of different approaches to regulated labelling in other countries, has led to some frustration. In the GE debate, Canadians are leaning toward disagreement that Canada's GE labelling laws are strong enough and that GE foods are as safe as regular foods. They are tending to agree, that GE foods will contaminate regular crops and see contamination as a serious concern.⁵² As such, management of GE foods is one of the areas that Canadians have the least degree of confidence with respect to the Canadian food system. While studies indicate that consumers support GE labelling, only a couple of percent of them are actively avoiding foods with GE ingredients, like canola oil. "GE free" is emerging as a brand attribute, targeting those consumers most concerned about the issue. Canadians are more interested in seeing country of origin labelling (where food is grown and processed) and safety certification and nutritional labelling than they are labelling describing the presence of GM ingredients. This may change if consumers are given reasons to doubt the safety of GE products.

5.2.3 The Ethical Treatment of Animals

About one in five Canadians said they had boycotted food products because of concerns with animal treatment on the farm and during slaughter. This issue is one where emotions run high and is definitely tied to the vegetarianism movement. Among a host of food safety issues, treatment of farm animals is an issue that consumers have not heard a lot about to date, but with electronic media, will likely be more exposed to in future. The mass media tends to report extreme, but isolated cases. Some interest groups are actively promoting the negative view on this topic, while industry groups have formed in several provinces to educate consumers and initiate improvements. Very recently a National Farm Animal Care Council has been formed by government and industry to promote farm animal

⁵² "Food Issues Monitor International Report 2004, International Public Opinion on Food from Production to Consumption". Toronto: GlobeScan Incorporated, November 2004.

care and to provide a mechanism for all stakeholders to come together.

5.2.4 Country of Origin and Traceability

A 2004 study indicated that three in ten Canadians would avoid buying a food product based on country of origin. The three main places that elicited avoidance were Asia, Latin America and the United States. The main reasons stated for avoiding food imports were to defend against safety or security threats, or to protect oneself against health or disease threats.⁵³ Undoubtedly, over the next fifteen years, avoidance of specific countries will shift with the threat of the day and the current political and trade climate.

There are three aspects to the issue of country of origin and traceability.

One relates to perceptions of the standards of production employed in some countries from which we import food. There is an implied link between food safety and quality and these standards of production. This may include sustainable agricultural practices such as land and water use, the use of pesticides on crops or hormones and antibiotics in livestock, or the use of food additives and preservatives in processed food.

The second aspect, and one which is closely related to the image of domestic production and processing, is the concept of traceability. While Canadians were largely unfamiliar with the concept of a food traceability system in Canada in 2004, they do support such a program and believe that the federal government would be best suited to provide a traceability system. Awareness of the current recall system as administered by the Canadian Food Inspection Agency (CFIA) reinforces confidence in the system of identifying foods carrying diseases and bacteria or contaminated foods that may put human health at risk. Traceability is just one example of how a regulation could enhance consumer confidence in domestic products and differentiate them from imports.

⁵³ "Food for Thought, Canada's Only Syndicated Study of Attitudes and Behaviour Related to Food Health and Safety". Compas Public Opinion and Customer Research, April 29, 2004.

The third relates to “social consciousness”, a trend fuelled by increasing globalization. This aspect of consumer choice relates to perceptions of broader political and economic issues, including human rights violations, exploitation of the labour force, environmental policies (e.g., wildlife habitat preservation and the encroachment of agricultural land on rain forests), and involvement in military aggression. Those most concerned with these issues tend to be younger. Consumer choice may be reflected in avoidance of foods from select countries, preference of foods from others (e.g. a willingness to support an industry in a developing nation), seeking out products with more all-encompassing certification standards, or “fair trade” products, and perhaps an enhancement of the image of the “Canadian” brand. Certainly, buying Canadian has long been understood to provide local economic benefits, but Canadians will choose food based on other attributes, particularly if Canadian product is not available.

An interesting trend has been the increase in import penetration⁵⁴ in the food processing sector with globalized trade, meaning that more of our domestic market is supplied with imports. The trade-off is the development of export markets for Canadian products. What this means for the consumer is more choice and the benefits of price competitiveness, but a more complex decision process (trade-offs) because issues other than the traditional attributes of price/value, nutrition, taste, convenience, and freshness/quality come into play. It may also mean more dominance of national (American) brands that benefit from a lower cost structure due to economies of scale, brand recognition and distribution efficiencies.

⁵⁴ Import penetration is measured by calculating the proportion of the domestic market that is supplied by imports or (value of imports (value of shipments - value of exports) + value of imports). As countries reduce trade barriers one expects Canadian industries to export more products and Canada to increase product imports. Trading partners export products that they can produce at a competitive or comparative advantage and tend to import those that their trading partners can produce less expensively, quality and other product characteristics being equal.

Table 5.1: Import Penetration of Processed Food Products, Canada, 1995 to 2001

Food Processing Industries ¹	2001 Import Penetration % ²	6 Year Change 1995-2001 ³
Grain and oilseed milling	30.8	+10.9
Sugar and confectionery product manufacturing	41.3	+5.4
Fruit and vegetable preserving and specialty food manufacturing	31.0	+1.7
Dairy product manufacturing	5.7	+2.5
Meat product manufacturing	12.1	+6
Seafood product preparation and packaging	60.7	-1.9
Bakeries and tortilla manufacturing	16.5	+2.7
Other food products	33.2	+8.7
Food manufacturing	20.9	+2.8
All manufacturing	56.3	+3.2

¹ North American Industry Classification System.
² Import penetration fluctuated from year to year.
³ i.e., in 1995, 19.9% of domestic consumption of grain/oilseed milling was supplied by imports.
Sources: Statistics Canada and Industry Canada.

5.3 FOOD IN OUR WORLD

5.3.1 Packaging and the Environment

One issue that appears to be weighing less on the minds of consumers is environmental packaging. In recent years, major initiatives have been undertaken by the packaged foods industry to reduce package waste, ensure that packaging materials are recyclable, and if possible, use recovered materials in packaging. Bulk buying is still available, but consumers are

clearly trading off convenience and their need for eating and drinking on the go, meaning the package serves as the cooking and/or eating vessel/utensil. Concerns with packaging waste have not, for example, hampered growth in the bottled water market. The growth in the convenience market and more packaged single-serving items to address demand in small households, will continue to create even more package waste. Consumers justify their use of pre-packaged foods by acknowledging that they would have to use food wraps if taking the items from home anyway. It has been suggested that the act of consumer recycling has lulled us into believing that we are doing our bit for the environment. In 2005, the Government of Canada launched “The One Tonne Challenge” campaign that encourages every Canadian to reduce their impact on greenhouse gas emissions which contribute to climate change and global warming. The impact of this program on food package choice is yet to be realized.

5.3.2 Food Waste

An issue looming on the horizon, and evidenced by the upward trends in total food consumption as forecasted in this report is that of food waste. Baby-boomers grew up with their parents (who knew the meaning of food shortages) harping on them to “clean their plates”. The Generation Y’s are growing up with parents who are more conscious of making an issue out of food for fear it will lead to eating disorders. The Boomer culture has not been the best model for food economy in the household.

Food waste includes everything from half eaten restaurant meals, tossed out leftovers, disposal of wilted produce or spoiled food in the refrigerator, disposal of half used bottled sauces and canned foods, and food wasted in processing or home preparation (trim). In the past, larger families meant simpler, well planned meals that used leftovers, if available. With trends to smaller families and eating out, alternate meals being prepared for different family members, somewhat weak meal planning overall, a greater variety of foods available, infrequent shopping, and less financial pressure to be economical in the kitchen, food waste is increasing. Ingredient waste (trim) has also shifted somewhat from the kitchen to the processing industry, the retailer, and restaurateur.

Packaging with extended shelf-life encourages us to buy foods (such as packaged salads) that we know we won’t eat right away ... but that’s OK. We feel good about including these products in our grocery cart because we intend to eat healthier foods. As one food writer described ...her fridge contains “a lot of well intentioned foods going bad.” Eating out or picking up more meals also makes consumers think they are not eating as healthy as they should... so they compensate by buying more, better quality, fresher foods that may not get used. Somehow, having these foods in the refrigerator is almost an appeasement; parents feel good that they are at least providing healthy options for their children.

Individually packaged snack foods taken from home create a perception of a reduction in food waste because if the item is not consumed one day, it can be eaten the next. But portion control for individual servings is next to impossible with pre-packaged and fast foods; if we don’t want it all, we toss out that half eaten granola bar, microwavable fettuccine, or hamburger.

The food industry is constantly looking for ways to maximize the utilization of ingredients in order to be cost competitive. But at the same time, waste being absorbed into the food system means sales volume. Portion size is closely linked to value for the dollar in the consumer’s mind. As we become more conscious of sustainable production systems, the enormous resources that go into processing, packaging, transporting, and storing food, as well as world food shortages, pressure will come to bear on the industry and consumers to reduce waste. Raising energy costs may be the catalyst to stimulate a change in consumer attitude regarding food waste.

5.4 CONSUMER-DIRECTED INTERVENTIONS

As consumers demand healthier foods, produced according to certain standards, and information, the food production and processing industry has, and will continue to respond accordingly. The simple availability of innovative foods in response to consumer trends will drive consumption and the

establishment of new categories. Governments and other organizations also have a menu of responses available to them, any of which will have varying degrees of effectiveness in changing future consumption patterns:

- * Consumer-directed communications and positive message campaigns about healthy eating and exercise, disseminated through a host of methods such as web sites, 1-800 programs, information kits and the media. Note that the Canada Food Guide is under review with an update scheduled to be released in spring of 2006;
- * Advertising bans to children, or regarding certain “bad-for-you foods”;
- * Legislated changes to the education system (mandatory physical education), curriculum changes to promote healthy lifestyles, or banning “junk food” and soft drinks in schools, in favour of healthier options;
- * Routine paediatric screening for obesity risk;
- * In school measurement and tracking of student BMI’s and reporting to parents;
- * Regulated labelling of nutritional content, natural health products, health claims, warnings, and the like. This includes posting nutritional content of prepared foods served at restaurants, cafeterias, or available for take-out;
- * Certification programs for certain production standards (e.g. organic, GE-free, produced under sustainable agricultural conditions reflecting water and soil conservation, wildlife habitat protection, fair labour practices, etc. such as “Free Trade” coffee);
- * Changes to the food inspection system, including testing methods, frequency and the types of foods tested to identify risks, diseases or ensure compliance;
- * Taxation, including “fat taxes” to consumers, fast food restaurants, or to processors regarding use of certain ingredients. Taxation of products supporting sedentary lifestyles such as DVD rentals, movie tickets, and video games;
- * Tax incentives directed to the food industry, to reward companies for introducing innovative improvements;

- * Subsidized sports facilities and programs, or tax deductions for health club memberships, exercise programs;
- * Out right bans on certain ingredients (trans-fats, GE foods); and
- * Mandated or recommended reductions in certain ingredient use (e.g. salt, sugar, fat content), or portion size control.

In the United States, it has even been suggested that health care premiums be linked to obesity (i.e. BMI) as a risk factor, similar to the way age is linked to car insurance premiums.

In addition, governments, industry, and interest groups are continuing to fund research into the cause and treatments of diet and lifestyle-related health issues. Permitted labelling of health claims will undoubtedly follow if links between diet and health can be proven. In 2003, The Food and Drug Regulations⁵⁵ permitted just four health claims for foods, pertaining to:

- * sodium, potassium and the link to hypertension;
- * calcium, Vitamin D and the link to osteoporosis;
- * saturated fat, trans-fat and the link to heart disease; and
- * vegetables and fruits and the link to some types of cancer.

Mandatory Labelling... Voluntary Response

Honourable Ujjal Dosanjh, Minister of Health: “As part of our ongoing commitment to help Canadians make healthy lifestyle choices, the Government of Canada introduced mandatory nutrition labeling for pre-packaged foods that requires calories and the content of 13 core nutrients be listed on the labels by December 12, 2005. We took this action to ensure information is available to help Canadians make healthy food choices. Today, I am encouraged by the voluntary action of Canada’s largest restaurant chains to make it easier for consumers to see the nutritional content of their meals. The Canadian Restaurant and Foodservices Association has launched its new Guidelines for Providing Nutrition

⁵⁵ “Canada Gazette, Part 2, Vol 137, No. 1, Page 379, January 1, 2003.

Information to Consumers as a concrete signal that participating restaurants are committed to helping Canadians make more informed food choices. It is commendable that these restaurant chains have joined the movement toward heightening consumer awareness and providing the information in a consistent way.”

Source: Health Canada News Release, February 2005

As marketers assess new product opportunities, they will undoubtedly consider export potential so will have to address the regulatory environments in other countries as well as in Canada. Again, this presents more choice for Canadian consumers because the niche for the new product may have been too small to have justified introduction without the development of these other markets.



6.0 SPENDING OUR FOOD DOLLAR

6.1 WHAT WE SPEND

As a percentage of total household spending, food continues to shrink; down about a half a percentage point between 1996 and 2001. This begs the question... is the real cost of food decreasing, or do we just have more disposable income to spend elsewhere? One way to answer this question is by examining the Consumer Price Index (CPI).⁵⁶ At the end of 2004, the CPI sat at 124.9 for food and 124.5 for all items excluding food, indicating that the increase in food costs slightly exceeded increases experienced for all other products since 1992. However, overall inflation has been low (less than 1% annually since 1992).

Not surprisingly, there is a direct relationship between household size, household income, and spending on food. Higher spending in the top income category is largely due to more people in the household, but on a per-capita basis, spending on food is about one-third more in the highest income category, relative to the lowest.

Greater expenditures on food by the higher income groups may be reflected by a variety of behaviours including:

- * higher spending in restaurants versus food purchased at retail stores to be prepared at home;
- * purchasing higher quality items and spending proportionately more on expensive items such as better cuts of red meat or poultry;
- * purchasing foods with special attributes, such as organically produced or fortified;

⁵⁶ The Consumer Price Index (CPI) is the cost of a basket of about 600 items representing typical household expenditures such as food, shelter, clothing, furniture, transportation and recreation. The cost of the basket is tallied every month and these prices are tracked by Statistics Canada. The prices in the basket are measured against a base year (currently 1992) that is assigned a value of 100.

- * higher spending on meat protein overall versus lower cost protein substitutes such as pasta with cheese and beans;
- * variety seeking by purchasing imported items and fresh produce out of season;
- * buying brand name products versus no-name or store brands;
- * purchasing more value-added processed foods;
- * less “sale shopping” and coupon use;
- * avoiding lower cost fast food restaurants or discount food retailers; and
- * more wastage.

The issue of whether lower income groups actually consume less food also comes into play. Eight percent of Canadians surveyed in 1998/99 expressed concern about having enough money to buy food and had experienced a compromised diet, typified by residents of households relying on social assistance, residents of low income households, lone mother families, aboriginal people living off reserve, and children. Twenty-two percent of these “food insecure” Canadians sought assistance from food banks, soup kitchens or other agencies.⁵⁷ The relationship between low income and household spending appears to have more to do with food quality, social issues, and perhaps unemployment or sedentary employment, than food quantity, except among the most impoverished sub-group.

⁵⁷ Che, J., Chen, C., “Food Insecurity in Canadian Households, Health Reports Vol 12, No 4”, Ottawa: Statistics Canada Catalogue No. 82-003, 2001.

Income Range	Annual Household Spending on Food	% of Household Expenditures on Food	Average Household Size	Annual Per-Capita Spending
	\$6438	11	2.6	\$2515
<\$22,000	\$3272	18	1.5	\$2153
\$22,000-38,984	\$4978	15	2.2	\$2305
\$38,984-58,366	\$6319	13	2.6	\$2403
\$58,366-86,000	\$7666	11	3.1	\$2497
\$86,000+	\$9954	9	3.4	\$2902

Total households: 11,552,010, each income grouping (quintile) has an equal number of households
Source: Statistics Canada, Survey of Household Spending 2001

6.2 WHERE WE SPEND IT

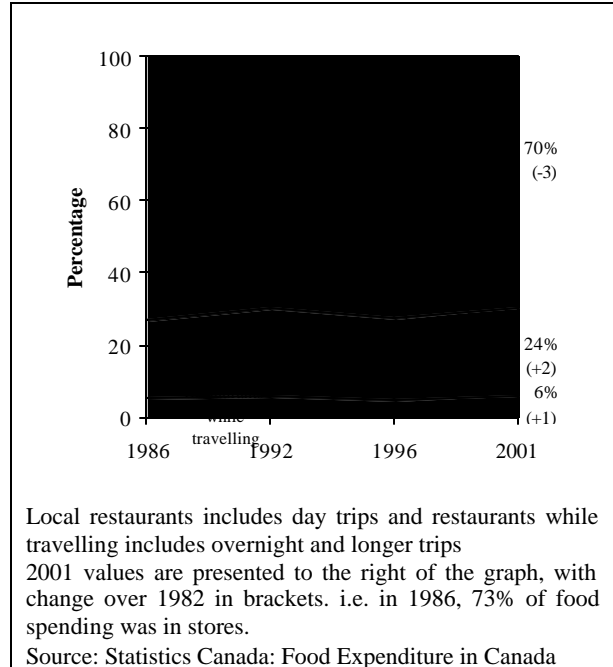
In spite of the continuing growth in restaurant spending, most food is still consumed in the home, with over three quarters of Canadians eating just three meals or fewer per week that are not produced in the home.

Thirty cents of every food dollar was spent in restaurants in 2001, up from 25 cents twenty years earlier. About 80 percent of restaurant dollars were spent locally or on day trips, the remainder while travelling overnight. The Canadian Food and Restaurant Association forecasts an average 1.9% real growth in commercial food service sales (including revenue from tourists) between 2004 and 2008. This is a slower pace of growth compared to the 3.2% average achieved in the prior decade. Although total volume of food service sales continues to rise, grocery sales increases outpaced food service increases in 2002-2003; therefore proportional spending in stores will likely continue to show some recovery in the years ahead.

Both total food expenditures and the proportion spent in restaurants increases with household income. Persons with household incomes less than \$20,000 spent about 23% of their weekly food dollar in food service in 2001, while those from households with \$80,000 or more spent 36% (locally and while travelling). However, there was almost no difference in proportional local and day trip spending by

restaurant type (table service, fast food, cafeteria and other) by income group. Single men spent the highest proportion of their food budgets in restaurants in 2001. Lone parent families headed by women also ate out more than the average.

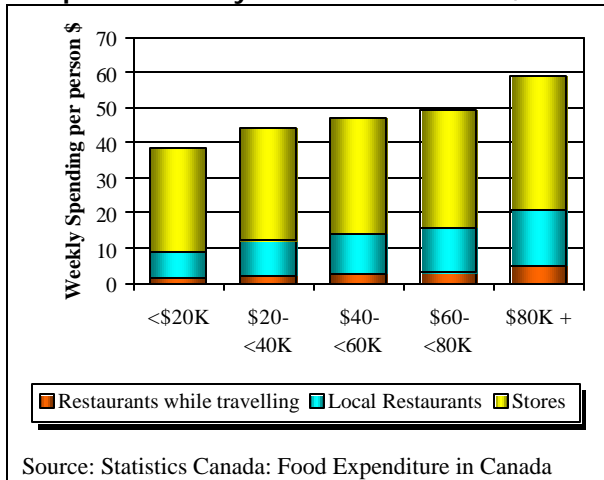
Figure 6.1: Share of Food Spending by Canadians in 1986-2001



While supermarket spending dominates all income categories, proportionately more dollars are spent in food specialty stores among the highest income

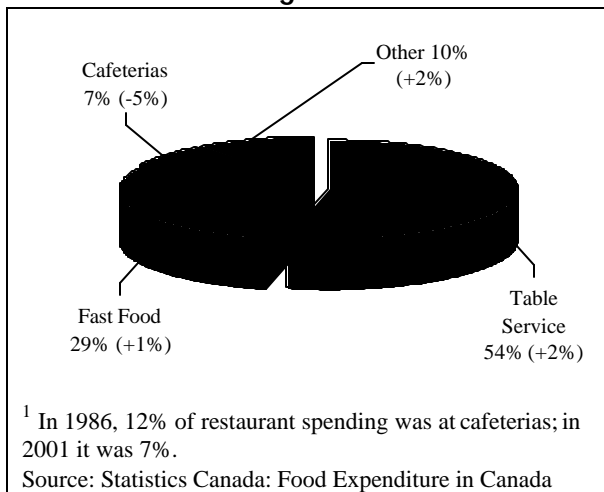
group; lower incomes align with proportionately more supermarket and convenience store purchases.

Figure 6.2: Weekly Per-Capita Food Expenditures by Household Income, 2001



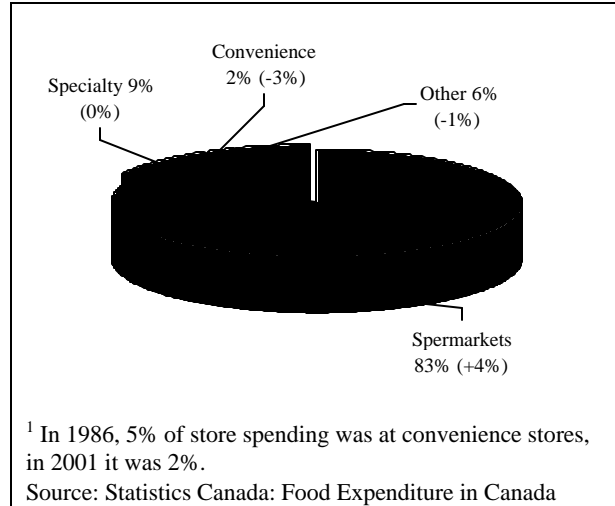
More than half of food service dollars spent locally or while on day trips were at table service restaurants. Cafeteria spending declined the most in recent years, but overall, the distribution in spending has been very stable.

Figure 6.3: Restaurant Spending on Share of Local/Day Trip Food in Canada in 2001, and Change¹ From 1986



Although store sales are losing out to food service growth, supermarkets continue to have the largest and fastest growing share of retail food sales. Specialty food stores have held their own, while proportional spending in convenience stores is small and shrinking.

Figure 6.4: Share of Store Spending on Food in Canada in 2001, (Locally and on Day Trips) and Change¹ from 1986



ACNielsen⁵⁸ further breaks down grocery sales by outlet type, illustrating that consumers have more options available to them in regard to food purchasing outlets, thus eroding the market share of traditional grocery chains. Value-priced mass merchandisers such as Wal-Mart and Zellers are increasingly moving into food items (estimated to have 8% of Canadian food store sales in 2003) while drug store chains (with 7% share in 2003) are competing in the dry goods and convenience food sectors. A more stable outlet in terms of share, warehouse style stores offer low-cost bulk buying (with 6% share in 2003).

Traditional grocery chains are re-positioning themselves with distinctive house brands; deli counters, “heat and serve” take out, prepared entree options, and “atmosphere”. The boundaries between food retail and food service are blurring. In response to increased choice in purchasing, many outlets have introduced customer loyalty programs, in the form of club cards, air miles rewards, and relationship marketing.

In some urban locations, farmers markets are growing in response to consumer demand for variety, quality, freshness, and local items. Farmers are pursuing alternative marketing channels to improve their returns. “Boutique” outlets are also popping up, offering everything from specialty “artisan” breads,

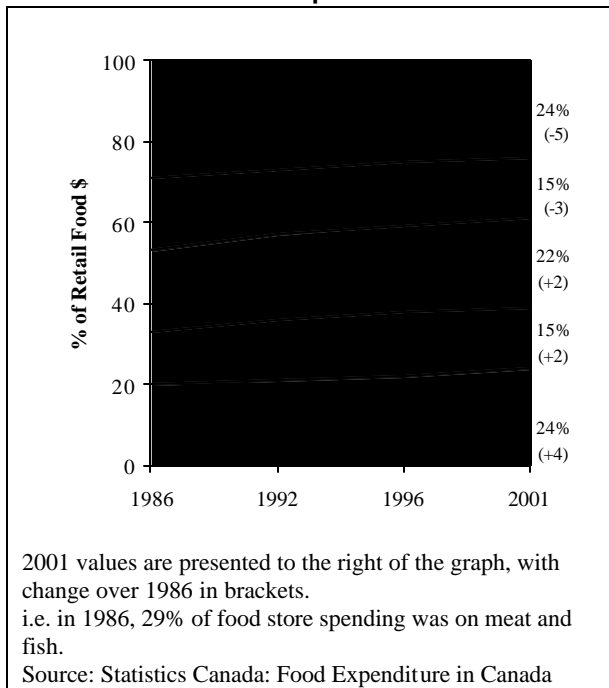
⁵⁸ Source: ACNielsen: Homescan Grocery Watch 2003.

to quality imported cheeses, and chocolates, thus feeding the consumer’s desire for “indulgence”. On-line ordering, fuelled by computerized appliances with scanning functions is an evolving trend, the impact of which is yet to be felt.

6.3 WHAT WE SPEND IT ON

During the last 15 years of the 20th century, proportional retail spending on food categories was quite stable. Some declines were noted for meat, eggs and dairy, fats and oils, and coffee and tea, offset by increases in fish, fruits, nuts, vegetables, bakery goods, and a host of other small category products including condiments, spices and vinegar, sugar and sugar preparations, and others.

Figure 6.5: Change in Canadian Food Expenditures 1986-2001
Store Purchases, Locally and On Day Trips



Shifts in categories such as coffee and teas have more to do with growing away-from-home consumption of these popular items. Shifts in all categories may be

influenced by different rates of price change, and price sensitivity within the category, as well as options to purchase more expensive processed foods within a given category.

6.4 FORECASTING HOUSEHOLD EXPENDITURES

Projecting food expenditures forward is complicated by many factors. Consumption is logically the biggest driver of overall food expenditures. While total consumption is mainly driven by absolute population change (the Canadian population is projected to increase by 14% between 2001 and 2020), consumption also varies on a household basis, which is in turn driven by demographic shifts, household spending patterns and income, as well as by food preferences and prices.

The total volume of food consumed has increased steadily over the years. Whether these rates will continue to climb is unknown, but health awareness and intervention may moderate the trend. There are also shifts in consumption within the food groups which have an impact on expenditure because of the relative costs of different foods. For example, declines in meat and milk have been offset by increased consumption of fruits, vegetables, nuts, pulses, eggs, fats and oils and beverages. Increasing food service and convenience (value-added) spending has an impact, as does variety seeking and an increasing propensity to purchase foods and brands with differentiated attributes.

Household size is strongly correlated to household expenditure – the more people in the household, the higher the food bill, but as household size declines “efficiency” of food purchasing goes down on a per-capita basis. Given the demographic shifts occurring in the population, a faster rate of decline in household size relative to the historical trend is indicated. Household size now appears to have stabilized at around 2.6 persons.

In recent history, absolute spending on food adjusted for inflation has remained relatively constant but as a percentage of household expenditures, it has declined as disposable income has increased. Household spending on food and other items is related to

income; a function of the labour market, retirement/ investment income and life expectancy. Age is also a factor; we know that, for example, as age increases (i.e. over 65), food expenditure per person declines.

Table 6.2: Trends in Household Expenditure on Food

Year	Census Population	Average Number of Persons per Private Household	Median Age	Average Weekly Household Expenditure in Constant Dollars	Average Weekly Per-capita Expenditure in Constant Dollars	CPI for Food	Food CPI as a % of Non Food
2001	30,007,095	2.6	37.3	\$124	\$48	117.2	+1
1996	28,846,760	2.6	35.1	\$124	\$48	105.9	=
1991-2	27,296,859	2.7	33.3	\$130	\$48	100.4	+2%
1986	25,309,331	2.8	31.4	\$128	\$46	82.8	+7%
1981-2	24,343,181	2.9	29.5	\$120	\$41	65.3	+14%

Source: Statistics Canada: Census of Population, Food Expenditure in Canada, and Cansim Table 326-0002.

A summary of the factors that may impact household food expenditure through to 2020 follows.

Table 6.3: Influences on Future Household Food Expenditures

Factor	Potential Impact
Consumption	
Aging population: Increasing life expectancy, declining birth rates, and median ages	Down
Static or declining household size due to declining birth rate, lone parent families, empty nester baby-boomers and singles (e.g. increase in widows, widowers, divorcees, split common law relationships), moderated by delayed household formation by 20-29 year olds	Down or stabilized
Immigration: larger household size and younger	Up
Excess consumption: food waste	Up
Excess consumption: increase in overweight and obesity if trends continue or moderating if trends reverse	Up or stabilized
Shift from meat to non-meat	Down
Consumer Spending	
Increase in disposable income, decrease percentage of household income spent on food	Up

Increasing debt load of Canadians	Down
Potential Impact	
Consumer Spending (continued)	
Interest rates – re debt servicing and overall spending	Up or down
Stock market - investment/retirement savings performance	Up or down
Increase in food service, take out as a percentage of food spending and growth in moderately priced, healthier, pick-up options from food service	Up or stable
Fragmentation of retail (low price positioning of mass merchandisers/ warehouse stores ... quality/gourmet of specialty and “lifestyle” stores, retail offering take-out)	Stable
Food Prices	
Adoption of value-added convenience foods	Up
Variety seeking: gourmet foods, exotic produce, alternative meats, fresh fish, imported foods	Up
Foods with special attributes: functional foods, fortified foods, organics, GE-free, ethics branding	Up
Inflation in food prices (Consumer Price Index) – depends on commodity prices, manufacturing, energy and distribution costs (mainly energy and labour),	Up or down

interest rates, currency exchange, etc
Competition with globalized trade and Down

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7.0 THE VIEW AHEAD: A QUANTITATIVE ANALYSIS OF CONSUMPTION TRENDS

Building on the analysis and review of shifting demographics, major food trends, consumer attitudes and issues, a series of food consumption projections have been developed. The focus of this chapter considers how these trends have impacted individual per-capita food product consumption in the past, and how they will continue to do so through to 2020. This analysis goes beyond projecting total or aggregate demand for individual food commodities as a function of mere population growth.

The analysis and projections of Canadian food consumption trends addresses each of the following food groups:

- * meats – red meats, poultry, and fish;
- * eggs and dairy;
- * fruits;
- * vegetables;
- * cereals, nuts and sugars;
- * fats and oils; and
- * beverages.

Within each food group, the analysis was conducted in three logical steps:

- * statistical correlation relationships were estimated between historical food consumption and a set of economic, social, and demographic influences and trends that are anticipated to have an impact on individual food consumption behaviour;
- * individual historical food consumption trends between 1984 and 2003 were analyzed; and,
- * future consumption levels to 2020 were projected, using multiple regression models.

Two methods of estimating the consumption of food by consumers are used in this report. Consumption

can be estimated either in terms of domestic disappearance or per-capita consumption. The domestic disappearance quantity represents a greater amount of food as it is the food that exists in the marketplace and is inclusive of what is lost throughout the system, at the retail outlet, the household, in private institutions and restaurants, and as well, cooking and plate losses. Per-capita consumption is a lesser value, expressed as kilograms of consumption per time period (in this report on an annual basis) as estimates are made to exclude losses throughout the system and thus more closely approximate the amount of food actually consumed. To meet the needs of different users of the information, both levels of consumption and use will be provided in this report. The historical trend and correlation analysis will be based on per-capita consumption quantities. The future (aggregate) projections will be provided both for per-capita consumption and domestic disappearance quantities.

7.1 TECHNICAL APPROACH TO CONSUMPTION PROJECTIONS

7.1.1 Theoretical Background

It is hypothesized that the qualitative trends (economic, social, and demographic), if they are real and sustainable, can be statistically measured, and in themselves can be used to forecast future food consumption. The theoretical basis of the analysis and projections is based on the following functional relationships.

Food Consumption = f (economic, social, and demographic trends).

This simple expected relationship between food consumption and these variables and trends is elaborated upon below.

Economic Variables: Traditional economic theory suggests that expenditure on food, and therefore consumption, is directly related to such factors as income (typically per-capita disposable income) and the price of food. What is most critical and indicated in international research studies, is that in low income and developing countries, the expenditure elasticity is quite high. This implies that in a developing country, a major proportion of any increase in disposable income will be directed into food consumption. As the average income levels rise in a country, the proportion that goes toward food falls, with more going into other consumer items like durable goods, vacations, etc.

Food consumption patterns as well, change significantly as incomes rise. In a low income country, food expenditures are focused on cereal products, fruits and vegetables. As incomes begin to rise (middle income), there is often a shift toward higher cost meats like beef and pork, and away from cereals. As the individuals income rises even further (high income country), there is a slow and gradual shift away from meats, and towards higher valued packaged, processed, imported and branded foods.⁵⁹

In a general sense, the food expenditure elasticity drops as the level of per-capita disposable income rises. For example, the proportion of consumers' disposable income in Canada that is spent on food is estimated to now be about 11%. That suggests that for every \$100.00 of disposable income, the average consumer spends about \$11.00 on food. In a country such as Canada, while income is a factor in understanding and in projecting food consumption, consumers' consumption patterns are also influenced by other non-economic social and demographic factors.

The **factors** that are used in this analysis are described below.

⁵⁹ Changing Structure of Global Food Consumption and Trade, Market and Trade Economic Division, ERS, USDA, Agriculture and Trade Report WRS-01-1, May 2001. Anita Regmi, et.al .

- * **Real Disposable Income:** The level of disposable income per-capita, in real terms is hypothesized to be directly related to the level of consumption. As disposable income rises, there is more money available to spend on food.
- * **Own Price Elasticity:** It is assumed that food consumption is impacted by its own price. As the price of an individual food product rises, other factors being equal, consumption will likely fall.
- * **Price of Substitute Products:** In a general sense, if there is a close substitute for an individual food product, then as the price of that substitute rises, the demand for the product will increase, and vice versa.
- * **Social and Demographic Factors:** As the qualitative analysis has indicated, there are major social and demographic changes underway in Canada which are impacting what foods people buy and consume. Four social and demographic variables are hypothesized to possibly impact Canadian food consumption. These are listed and explained below.
 - **Median age of Canadian Population:** The median age of the Canadian population has been continually increasing over the past 20 years and is expected to continue to increase. This in turn is anticipated to impact on the choices of food people are consuming in specific age groups, as well as the quantities they consume, and their relative ability to pay for food.
 - **General Population Growth:** The Canadian population is expected to continue to grow. Recent Statistics Canada population projections made for this study anticipate the nations' population to grow from 31.9 million in 2004, to 35.4 million, or 11% by 2020 using the medium growth scenario. Growth in the population impacts consumption.
 - **Immigration into Canada:** Canadian immigration, primarily from Asian countries has averaged well over 200,000 per year in recent years. This influx of people from different cultures is believed to have both a direct and indirect impact on food consumption patterns in Canada. Directly, these immigrants often have different food consumption preferences. Indirectly, they

influence non-immigrant consumption patterns through the transfer of new recipes, eating habits, and the establishment of ethnic restaurants.

- **Canadian Population Health Characteristics:** A final social trend that is thought to have some impact on understanding and predicting food consumption is related to an indicator of the general health of the population. One indicator of health is the well accepted Body Mass Index (BMI) which has been used by health professionals since the early 1990's. Based on surveys of the population, the proportions of the population which fall into the various weight categories are measured. Used in this analysis, the proportion of the population that is considered obese has been used. This ratio has been increasing over the past 15 years.

In summary, the analysis of historical food consumption patterns and projections of these trends to 2020 will be based on the statistical correlation and regression analysis using the following model:

Food Consumption = f[disposable income, own price, price of substitutes, median age of Canadian population, growth in the Canadian population, the levels of immigration into Canada, and the index of general population health based on the Body Mass Index (BMI)].

Not all of these variables are significant for each of the individual food consumption categories. Wherever possible, disposable income and the food products' own price are included in the projection model. They were included based on accepted economic theory of the relationship between consumption, income and prices.

In the series of correlation matrix tables for each of the food groups analyzed, partial correlation coefficients have not been listed with respect to the "own prices" of the individual commodities or food products. These were excluded as for most food products, the correlation would be negative, and this would double the size of the correlation matrix. In general, as the real price of a product increases, consumption will generally fall. There are some exceptions to this rule that may relate to inferior goods and luxury items. These correlation tables include median age, real PDI (personal disposable

income), immigration, Canadian population, food prices and the health indicator (BMI) only.

The following section provides some background on the statistical correlation and regression approach used.

Statistical Correlation and Regression Approach:

The analysis and forecasting model statistically correlated food consumption against the above set of economic, social and demographic variables, using a linear regression approach.⁶⁰ Multiple regression models have been developed for each of a wide variety of individual food products and categories.

Understanding the Statistical Correlation Approach

Correlation is statistically measured as being between +/- one, and indicated by the R squared value. So called perfect correlation of 1.0 (plus or minus) suggests that the dependent food consumption variable, beef for example, moves completely in synch with another predicting variable, the price of beef. Perfect correlation is almost never found. Correlation values are always between zero and one, and have either a negative or positive sign. A negative sign implies the consumption of food is inversely related to the movement or direction of change of the independent variable. A negative sign or correlation has as much economic value and information within it as does a positive correlation.

The fact that two variables may closely correlate with each other can mean two things. One meaning is that the independent variable is "causing" the change that is seen occurring in the dependant variable. For example, the fact that the price of a commodity or food product is rapidly rising, will very likely "cause" the consumption of that food product to decline. However, another meaning is that while

⁶⁰ Regression analysis is a statistical approach that can be used to describe and evaluate the relationships between a given or dependant variable (in this case per-capita food consumption) and one or more independent variable (for example income, demographic changes, prices, immigration trends, etc.) Once relationships between dependant and independent variable are statistically established (a regression model), this model can be used to forecast future values of the dependent variable (food consumption). The first stage of the process is to identify solid statistical relationships between the dependant and possible independent variable, then use the resulting regression model to predict future consumption trends.

there may be a strong correlation, this correlation is simply happening more by accident, than having any economic or social theoretical basis. For example, the consumption of red meats, as will be discussed, has been steadily declining over the past 20 years. If we correlated this with the real cost of computers over the past 20 years, we may find that they strongly correlate with each other, as computer costs have as well steadily declined. However most rational people would suggest that the changing cost of computers should not be used to help us understand and forecast red meat consumption. This is known as “spurious” correlation. There are a variety of statistical tests inherent in the proper use and application of regression analysis that help to sort out cause and effect, and spurious relationships.

Special note: in the Statistical Appendix D, there is additional information and explanation provides on the statistical analysis approach used, and a detailed summary of all regression equations used.

consumption data are not collected in the consumption statistics. Meat consumption in Canada, of all the food groups, represents by far the largest single category of expenditures at the retail level. In 2003, meat and products containing meat represented a retail sales value of nearly \$11 billion, some 30% of all retail sales.

With the exception of poultry and fish, the consumption of meats in Canada has either declined or is stagnant. Figure 7.1 provides a summary of the consumption patterns of all the major meat products in this group. The critical points to be made with respect to the consumption of meats over the past 20 years are as follows:

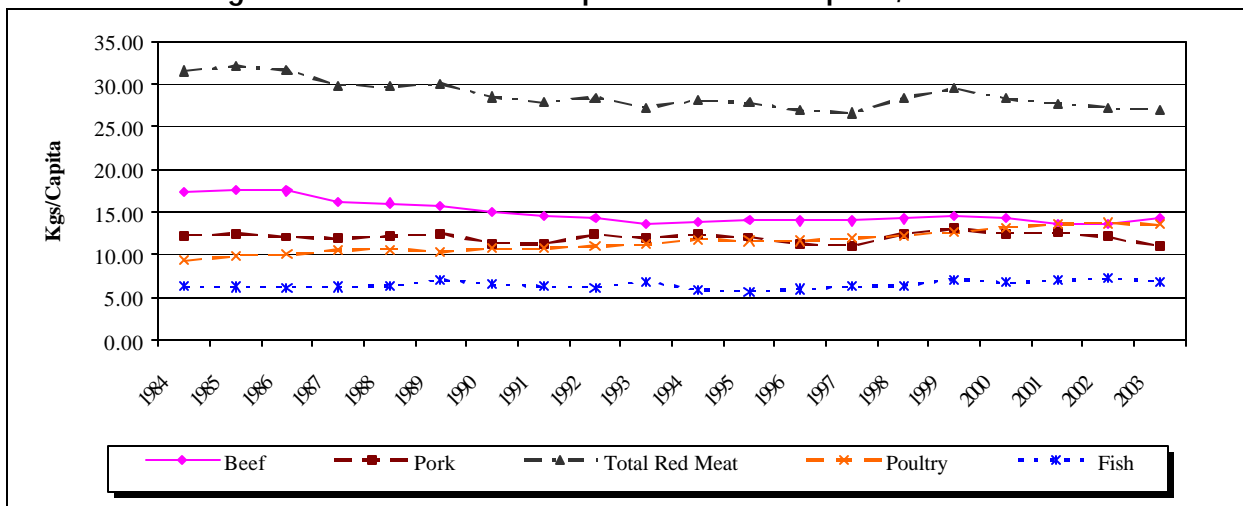
- * Red meat consumption is steadily declining. This category, which includes beef, pork and other red meats, showed a resurgence of life between 1997 and 1999, but now continues to decline. Total consumption of red meats dropped from 32 kg per person in the mid-1980’s, to some 27 kg in 2003, a decline of almost 16%;
- * Beef declined steadily, with the relatively unusual exception of a modest increase in consumption in 2003, as consumers rallied to support the beef industry in response to the BSE outbreak, and subsequent US-Canada border closing;

7.2 THE MEAT GROUP

7.2.1 Historical Trend Analysis

The meat group includes beef, pork, poultry, fish, and lamb and mutton meat. Lamb and mutton meat is used as a proxy for specialty or alternative red meats such as bison, venison and elk, for which historical

Figure 7.1: Canadian Per-Capita Meat Consumption, 1984-2003



Source: Statistics Canada, Canada Food Stats Database.

- * Pork consumption basically moved sideways over the past 20 years on a per-capita consumption basis. While there has been a fair degree of variability over the years, the level of consumption in 2003 was essentially identically to the consumption in 1984;
- * Poultry has and continues to show steady growth; and
- * Fish consumption has, like pork, remained almost constant for most of the historical period considered, however it has seen a solid and steady increase in demand since the mid-1990's.

The consumption of meat-based protein in Canada has remained almost constant over the past 20 years. Figure 7.2 shows the total consumption of red meats (beef, pork, and specialty meats) with the white meats (poultry and fish). In total, the consumption of all these meats has remained stagnant and is averaging some 47 kilograms per person per year. What can be seen is that the red meats are gradually losing market share to the white meats, and in particular poultry meat. If these values would have been expressed on a total disappearance basis, the

total disappearance of red and white meats has remained between 103 and 106 kilograms per person over this same 20 year period.

The consumer appears to have a fixed appetite for meat protein, as indicated above, at about 47 kilograms per person. The only apparent method to gain market share by any of the individual meat products is at the expense of another meat product. Table 7.1 helps to understand competitive strategies that may work to increase market share of any individual meat product. Beef and pork are positively, but weakly correlated with each other. As such, they are weak complementary products - the increased consumption of one, will slowly drag up the consumption of the other. Similarly, poultry and fish are complementary with each other - consumption of one is positively correlated to the consumption of the other.

The opportunities for increased per-capita pork or beef consumption must almost totally be directed at substitution with poultry and fish. Similarly, the opportunities for fish and poultry meat will be realized at the expense of beef and pork.

Figure 7.2: Relative Per-Capita Consumption of Red and White Meats, Canada

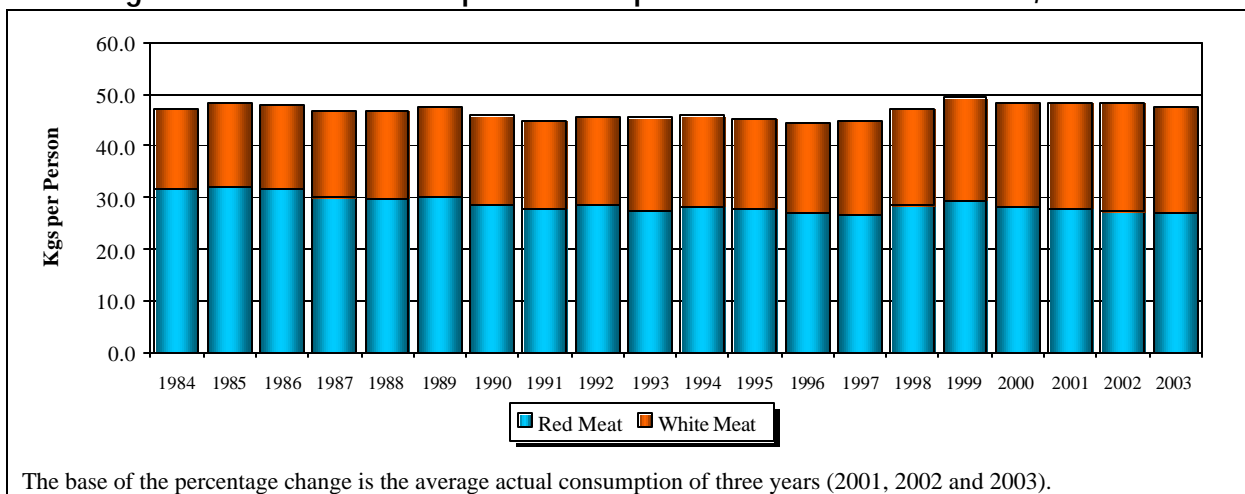


Table 7.1: Correlation Matrix Between Canadian Meats

	Beef	Pork	Poultry	Fish
Beef	1.00			
Pork	0.16	1.00		
Poultry	(0.78)	0.01	1.00	
Fish	(0.22)	0.23	0.48	1.00

7.2.2 Correlation Analysis of Meat Consumption

The correlation between the five meat consumption categories and the independent variables hypothesized to impact on their consumption are summarized in Table 7.2. This overview helps to identify the extent that economic, social, and demographic factors identified above correlate with meat consumption. Again, caution should be exercised in using correlation coefficients. The degree of correlation does not imply causality.

Some things immediately stand out. Pork consumption does not appear to correlate with any degree of strength to any of the independent factors in the economy and population. Poultry is distinguished by the fact that consumption is very

strongly positively correlated with a wide variety of factors. Beef stands out in having a very strong negative correlation with most of the independent variables, and in particular, the level of immigration. The red meat consumption category (excluding fish and poultry) shows a more modest level of correlation with some of the standard and expected indicators, compared to fish and poultry. It should be noted that red meats are very much dominated by the inclusion of beef and pork. Fish consumption is generally positively correlated with most variables, but in particular real personal disposable income.

The positive correlations of white meats to the health index, and the negative correlation of this index to red meat consumption are somewhat counter intuitive. The health index (which is a negative indicator of health – the higher it is, the lower level of population health as measured by the BMI) has trended up, as has consumption of the white meats over the period. To an extent, this is more a measure of spurious correlation, rather than causality.

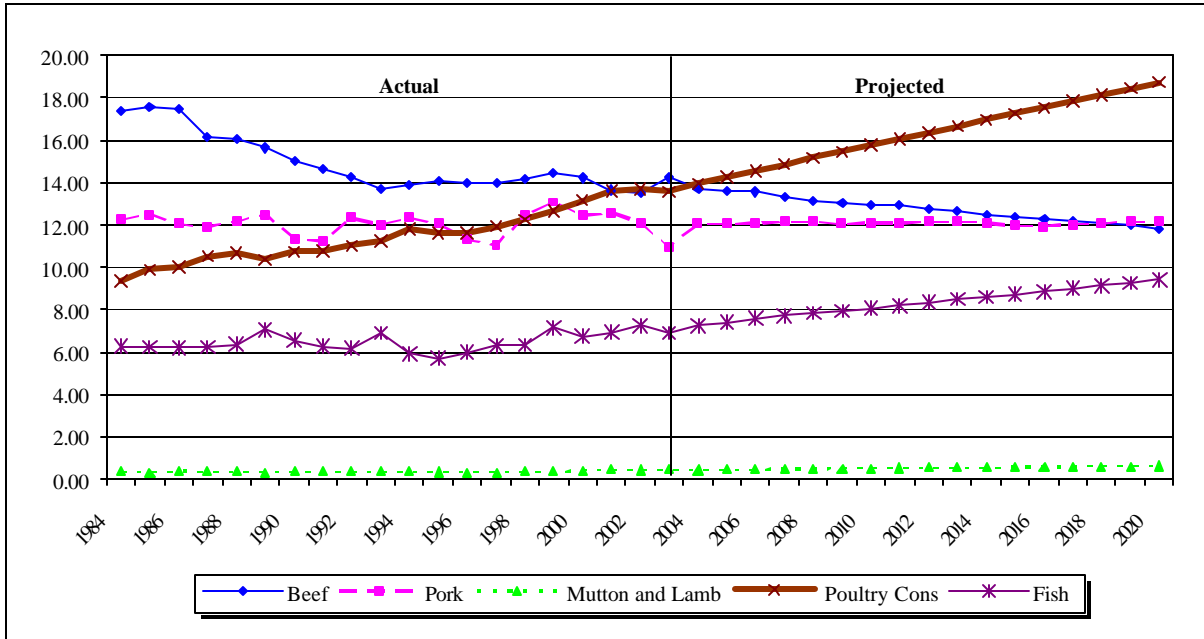
7.2.3 Meat Consumption Analysis and Projections

Figure 7.3 summarizes the historical and projected consumption trends of red and white meat products to 2020.

Table 7.2: Historical Correlation Between Meat and Independent Variables

	Beef	Pork	Red Meats	Poultry	Fish	Median Age	Real PDI	Immigration	Canadian Population	Food Prices
Beef	1.00									
Pork	0.16	1.00								
Red Meats	0.94	0.47	1.00							
Poultry	-0.78	0.01	-0.71	1.00						
Fish	-0.22	0.23	-0.12	0.48	1.00					
Median Age	-0.84	-0.07	-0.77	0.98	0.44	1.00				
Real PDI	-0.49	0.05	-0.43	0.79	0.75	0.73	1.00			
Immigration	-0.93	-0.23	-0.90	0.64	0.24	0.68	0.50	1.00		
Canadian Population	-0.87	-0.08	-0.81	0.97	0.41	1.00	0.71	0.72	1.00	
Food Prices	-0.89	-0.14	-0.84	0.96	0.43	0.99	0.74	0.77	0.99	1.00
Health	-0.76	-0.02	-0.69	0.98	0.46	0.96	0.79	0.62	0.95	0.95

Figure 7.3: Historical and Projected Meat Consumption



7.2.3.1 Red Meat – Beef, Pork and Mutton/Lamb

Beef consumption has steadily declined over the past 20 years. After peaking at 17.4 kilograms in the mid-1980's, the consumption has fallen to approximately 12 kilograms per person, a decline of 18%. Again, this analysis is based on consumption, versus disappearance. Disappearance values are provided in Section 8.1 For example, per-capita disappearance of beef fell from 39 kg in 1984, to 32 kg in 2003. Beef consumption is expected to fall further.

In 2003, there was a modest uptake in beef consumption, due to positive consumer reaction to the BSE industry crisis, and fuelled by lower prices of some beef products, particularly ground beef. The high protein Atkins diet fad may also have had an influence.

Real disposable income, beefs' own real price, the price of substitute poultry products, and the level of immigration are all found to be significant in understanding the consumption trends in beef. Classic economic theory supports the first three variables having an impact on beef consumption.

Beef consumption was found to be negatively related to the rising levels of immigration to Canada, an expected result as many Asian diets are limited in beef consumption. Unfortunately, future beef consumption, based on these findings, is expected to decline over the projection period.

Pork consumption is somewhat difficult to forecast. The classic economic relationships between income and prices were not found to be significant. Historical consumption was found to be quite flat and highly variable from year to year. After all considerations, the best approach for forecasting pork consumption was to use a simple trend line. Future consumption is expected to remain flat up to 2020.

Red specialty meats are a small but growing sub category within the red meats group. The consumption of lamb, and by extension other specialty meats, are forecast to grow significantly to 2020.

The view ahead for red meat continues to be somewhat negative when one considers what drives beef consumption, the largest volume meat type in this category. Unfortunately, beef consumption is

negatively correlated to many of the indicators that are driving Canadian food trends. As immigration levels increase, and the overall price of food increases, beef consumption decreases. Other factors contributing to the decline of beef include vegetarianism, but more significantly, the adoption of non-meat meals by the general public. This trend is in response to perceptions of convenience (e.g. prepared pasta dishes), perceptions of the health benefits of fish and poultry, vegetable, pulse or grain based diets, and adoption of Asian styles of cooking that are less dependent on red meat.

The opportunity for beef in particular lies with its incorporation in convenient, ready-to-eat forms. As well, there may be some opportunity in institutional food service through seniors' homes; this older market has traditionally been higher beef consumers.

The total red meat category will not decline at the rate of beef, mainly due to the adoption of other meats in this category. The historical analysis of red meat consumption in Canada identified that in 1984, 6% of red meat consumption in Canada was accounted for by red meats other than beef and pork (including lamb, goats and alternative red specialty meats). By 2003, this had grown to 7%.

The Games Afoot

Farm-raised game such as bison, boar, elk, deer, quail, pheasant, ostrich, emu, and rabbits are gradually making inroads into the Canadian marketplace. Game meat is stimulated by its growing appearance on restaurant menus, attention by food writers and the media, the current growth of agri-tourism which encourages visits to local farms, availability at farmers' markets, and awareness of producers through the Internet. In addition to the "exotic" appeal of these meats to variety seekers, there is recognition that some game (such as deer) is low in fat relative to traditional red meat. "Natural" ranching methods may also appeal to sub-segments of the market, who object to intensive livestock production typified by the traditional red meat industry or hunting of game in the wild. Further, many of these meats are considered uniquely Canadian. Tourists and immigrants are important markets for these products.

Over twenty-three thousand head of bison were slaughtered in federally inspected plants in 2003, an 18-fold increase from 1995. Export volume

increases did not keep pace with the growth in slaughter during this period largely due to the fallout of the BSE crisis, suggesting a considerable development of the domestic market, estimated at about 0.1 kg per-capita (supplied from federally inspected plants only). The bison industry recognizes that consumer acceptance is limited by current misperceptions, for example that bison is an endangered species in Canada.

The slaughter volume of rabbits tripled between 1995 and 2003, while the slaughter volume of wild boar and deer remained fairly constant. Elk ranching for meat is now being aggressively promoted by that industry. Elk has traditionally relied on exports of antler velvet as its main markets. Considerable consumer education is required to further advance this sector.⁶¹

7.2.3.2 Poultry

One of the more significant trends observed from Figure 7.3 is that per-capita poultry consumption (primarily chicken) surpassed pork consumption in 2000, and has now equalled beef consumption. Over the next 15 years per-capita poultry consumption is expected to significantly exceed both beef and pork consumption. Chicken continues to be very strong in both food service and dining in.

Poultry consumption increased 45% from about 9.3 kilograms per person in 1984, to 13.6 kg in 2003. Poultry includes chicken and turkey meat, as well as an increasing variety of specialty bird meats.

The regression analysis has found that poultry consumption responds very closely to per-capital disposable income, and its own price. Competitively priced poultry products results in gain in consumption and gain in market share at the expense of beef and pork.

7.2.3.3 Fish and Seafood

The historical pattern of fish meat consumption is best analyzed in two periods. Between 1984 and 1995, the consumption of fish meat was flat, or even slightly declining. Beginning in the mid 1990's, the consumption of fish meat began a slow and steady rise. Consumption, which averaged some 5.8 kgs per

⁶¹ Source; Canadian Food Inspection Agency

person between 1994 and 1995, increased to the range of 7 kgs per person between 2002 and 2003, an increase in the range of 20%.

The demand for fish, like poultry products, responds positively to the rise in real disposable income and negatively to its own price. Competitively priced fish products will grow in demand to 2020.

Some of the trends contributing to the increase in fish and seafood relate to changing tastes, healthier eating, influence of ethnic cuisines, and availability.

Treasures from the Deep

An ocean of choices at the fish market, along with a focus on healthful eating, have spurred interest in high-quality fresh fish and seafood and enticing new ways to prepare it. While supplies in the wild have diminished, farm-raised trout, salmon, Arctic char, tilapia, mussels, scallops, shrimp and oysters are more readily available. Also appearing at fish counters are more uncommon local and imported exotic species, such as squid, octopus, geoduck clams, dogfish, catfish, tuna, swordfish, grouper, mahi-mahi and monkfish.

The value of retail fish and seafood sales increased by nearly 50% between 1998 and 2003, relative to a 28% increase in all food sales⁶². In 2001, fish and seafood accounted for just over 3% of all weekly food expenditures.⁶³

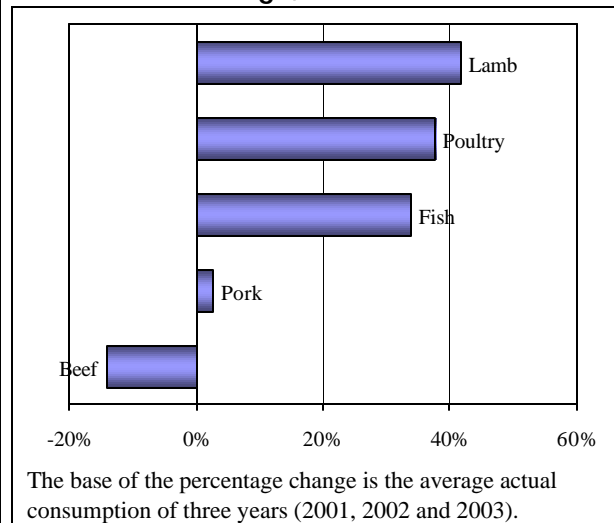
7.2.4 Meat Consumption Summary

Figure 7.4 summarizes the expected percentage change in meat consumption to 2020. Lamb consumption, used as a proxy for specialty meats, is expected to increase the most. Poultry and fish are both expected to increase by over 30% by 2020. Pork consumption is expected to be almost flat over the next 15 years. Beef however, is projected to be a major loser, declining by a further 14%.

⁶² Source: Retail Commodity Survey

⁶³ Source: Statistics Canada, 2001 Food Expenditures in Canada

Figure 7.4: Meat Consumption Percentage Change, 2003/2020



7.3 THE EGG AND DAIRY GROUP

The consumption of eggs and dairy products seem to be the most impacted by changing consumer trends and influenced by “health” reports which appear to continually review whether these foods are healthy or not. Over the years there has been information reported which sometimes appears to contradict previous studies. Fluid milk and ice cream consumption tend to fall with an aging population and increases in immigration levels. Alternatively, there is an apparent substitution for these products with cheese and cream. Likely as the population ages, they are less likely to be drinking milk or eating ice cream, but appear to be consuming cheese instead. Cream has been on the upswing because it is increasingly used as an ingredient in the growing specialty coffee and latte markets.

7.3.1 Correlation Analysis of Egg and Dairy

Table 7.3 summarizes the historical correlation between eggs, dairy products, and the independent variables. Within the dairy group, fluid milk is strongly negatively correlated with most economic,

social and demographic variables, whereas cheese and cream consumption is very much the opposite, and is very positively correlated with these same factors. Ice cream is, like milk, highly negatively correlated to most of these independent variables. Egg consumption is negatively correlated to these variables, but at a much reduced level.

Egg consumption is positively correlated to real disposable income, its own price, the price of all foods, and median age. Importantly, egg consumption is negatively correlated to the median age. As people generally become older, their consumption of eggs declines.

Milk consumption is positively related to changes in disposable income, and negatively related to any increases in its own price. As all food prices go up,

milk consumption is negatively impacted. Milk consumption appears to suffer as overall food prices rise.

The drivers behind cheese consumption include population trends, food prices, and the growth in the Canadian population, all which are positively correlated to increased cheese consumption. Cheese consumption is not as negatively correlated to its own price.

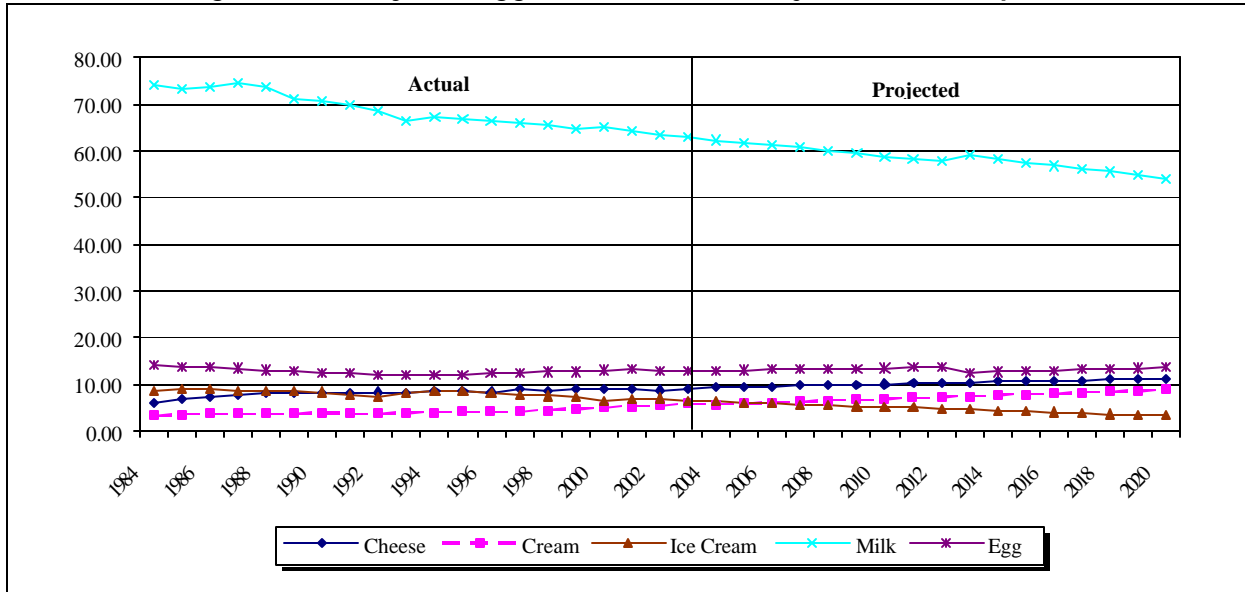
7.3.2 Egg and Dairy Consumption Analysis and Projections

Figure 7.5 provides a summary of the historical consumption trends and the future projections for eggs and the selected set of dairy products.

Table 7.3: Historical Correlation Between Eggs, Dairy and Independent Variables

	Fluid Milk	Cheese	Cream	Ice Cream	Other Dairy	Eggs	Median Age	Real PDI	Immigration	Canadian Population	Food Prices
Fluid Milk	1.00										
Cheese	-0.84	1.00									
Cream	-0.83	0.69	1.00								
Ice Cream	0.82	-0.71	-0.88	1.00							
Other Dairy	-0.06	0.02	0.54	-0.27	1.00						
Eggs	0.53	-0.71	-0.11	0.21	0.47	1.00					
Median Age	-0.97	0.87	0.92	-0.87	0.24	-0.41	1.00				
Real PDI	-0.62	0.62	0.85	-0.77	0.66	-0.12	0.73	1.00			
Immigration	-0.73	0.84	0.49	-0.62	-0.11	-0.81	0.68	0.50	1.00		
Canadian Population	-0.98	0.88	0.89	-0.87	0.18	-0.47	1.00	0.71	0.72	1.00	
Food Prices	-0.96	0.90	0.89	-0.87	0.20	-0.51	0.99	0.74	0.77	0.99	1.00
Health	-0.91	0.80	0.95	-0.84	0.39	-0.33	0.96	0.79	0.62	0.95	0.95

Figure 7.5: Dairy and Eggs Historical and Projected Consumption



7.3.2.1 Eggs

Egg consumption over the past twenty years has followed two distinct trends. Until the mid-1990's, the consumption of eggs declined, by approximately two dozen per person, or by 14%. Since that period, the consumption of eggs has remained fairly constant but an upswing is now evident. Eggs were the third ranked grocery product of the 89 tracked globally by ACNielsen in terms of year-over-year growth in 2003.⁶⁴ Liquid eggs were the fourth ranked growth category in Canada of all products tracked during this period.⁶⁵

Egg consumption has been buffeted by different consumer trends over the years. The decline in the first part of this period was in part due to concerns about eggs contributing to cholesterol levels. The role of cholesterol in foods and cholesterol in the body, as well as “good” and “bad” cholesterol, is better understood now; thereby eliminating the poor reputation eggs had in the past. The development of

the “omega-3” egg has helped to address the cholesterol issue.

Convenient and fast breakfast options, such as pastries, bagels and cereal bars have replaced home cooked eggs. The fast food industry introduced egg based breakfast products in order to expand into other meal occasion markets. More recently, the other nutrition benefits of eggs supported the small increased in consumption, as did the high protein, low carb diet popularized during the first few years of the 21st century. Another opportunity for eggs is that it is an ideal meat substitute. Eggs are no longer restricted to French omelettes, soufflés and quiches. New frittata recipes using eggs can be adapted to a variety of cuisines, using Mediterranean, Mexican or Italian flavourings, reflecting the ethnic food trend. Eggs are easy to eat and digest and hold potential for institutional food service directed at an aging population. Recently introduced liquid eggs provide a convenience benefit, and are also available in alternate forms (e.g. whites only).

Overall egg consumption is expected to show a modest increase to 2020.

⁶⁴ “What’s Hot around the Globe: Insights on Growth in Food and Beverages 2004” ACNielsen Global Services.

⁶⁵ “Annual Canada Consumer Expenditure Study Food Grocery Products (2003), Prepared for Agriculture and Agri-Food Canada”. Toronto: ACNielsen, March 2004.

7.3.2.2 Fluid Milk

Fluid milk consumption has steadily declined over the past 20 years. From a level of 74 litres per person, fluid milk consumption fell to about 63 litres in 2003, or by 15%. The forecast suggests this trend will continue to fall, especially considering that the absolute number of children in the population will decline. Other factors that have contributed to the decline in fluid milk consumption are: substitution with soy beverages and drinkable yogurt, the increase in yogurt and cheese which provide a natural calcium source, adoption of calcium fortified juices and cereals, increased consumption of certain vegetables which contain calcium, the use of calcium supplements, the adoption of Asian diets which are less dependent on milk, and a high level of lactose intolerance amongst Middle Eastern populations. Soft drinks, bottled water and other beverages have also eroded milk's share of all beverages consumed, partly due to a shift in food service, Cstore, and vending purchases. This is a major consideration for the dairy industry in Canada. The current trends in the introduction and promotion of flavoured milk, and single-serve sizes with fun label graphics sold through vending machines and at convenience stores are some improvements that may arrest this rate of decline.

7.3.2.3 Cheese

Cheese consumption is following a complementary and opposite trend to fluid milk. A 44% increase in consumption was noted between 1984 to 2003 on a per-capita basis. The rate of increase moderated in the late nineties and early years of the millennium however. Cheese is a more popular dairy product than milk among adults. With the aging population, growth in cheese will continue to be very strong.

The adoption of Italian, Mediterranean and Mexican styles of cooking (all using cheese) and the shift to meatless entrees has, and will continue to play a significant role in cheese consumption. The projections suggest that cheese consumption will continue to grow by nearly 30% over the next 15 years. Cheese consumption is not very price sensitive, likely due to the growing trends in specialized cheese consumption, and the fact that much of the cheese is consumed as an ingredient on pizza and pasta.

Gourmet and specialty cheese are seen as an indulgence by a more sophisticated adult population.

It also fits well as a quick and convenient snack or lunch food.

7.3.2.4 Other Dairy

Other dairy products include such items as ice cream, cream, and yogurt. Historical trends and projections of consumption for cream and ice cream have been estimated. Yogurt was not estimated because the time series consumption data did not fully reflect the recent high growth in this category, therefore reliable projections could not be made. It is recognized that by not including yogurt in the projections, the substitution effect on total dairy consumption is not fully illustrated.

Ice cream is one food category which is in a state of decline. Over the past 20 years consumption has dropped from 9 kilograms to just over 6 kilograms currently. This decline trend is anticipated to continue and may be partially reflective of consumer attitudes toward fats. Ice milk and frozen yogurt products, as well as an increasing variety of frozen fruit products and ices offered in single serving packages have replaced at least some of the loss in ice cream, most notably in the soft-serve industry and grocery trade.

Cream consumption shows an opposite perspective. In spite of low-fat awareness, cream consumption has increased by about 86% on a per-capita basis over the past 20 years, and is projected to continue this pattern of growth. The reason for the increase is its use as an additive in other beverages, specifically specialty coffees, and in desserts and bakery products. Specialty coffees may have in fact replaced ice cream treats, particularly in food service. This trend is fuelled by a shift to an adult population, coffee as a "small indulgence", popularization of coffee bars as a social gathering place, and more on-the-go beverage and food consumption overall. Flat alcoholic beverage consumption, possibly supported by anti-drinking-and-driving campaigns, has also supported coffee, and therefore cream consumption, amongst young adults.

As noted above, while yogurt was not included as an example in the projected consumption trends for dairy products yogurt has, in fact, grown fairly dramatically.

According to Statistics Canada, the average Canadian consumed 4.3 litres of yogurt

(excluding drinkable and frozen yogurt products) in 2003, up from just 2.3 litres ten years earlier. Other research has also shown that more households than ever before are buying yogurt and yogurt products. For example, the percentage of households that purchased yogurt jumped from 9% in 1996 to 22% in 2001.⁶⁶ Growth has largely been driven by:

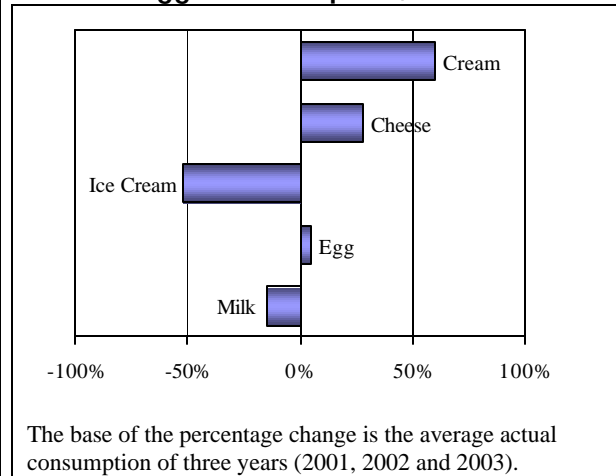
- * *recognition of yogurt as a functional food (probiotics);*
- * *creative packaging and convenience sizes that satisfy the “snack” craving;*
- * *age-specific targeting with aggressive advertising and branding;*
- * *alternate forms such as drinks, frozen yogurt, dips, and bars;*
- * *flavour options;*
- * *reduced fat options;*
- * *private (store) branding;*
- * *the influence of Asian cuisine and use as a recipe ingredient;*
- * *replacement of milk in the dairy category as a calcium source; and*
- * *recognition of yogurt as a functional food (probiotics).*

7.3.3 Egg and Dairy Consumption Summary

Figure 7.6 summarizes the expected percentage change in consumption of egg and selected dairy products. Of all these food types, cream is expected to have the greatest relative increase at 60%. This is consistent with the 86% increase in the previous 20 years. Cheese is projected to increase by nearly 30%. The expected losers are: fluid milk, likely to decline another 15% over the next 15 years; and ice cream, which will drop to half of its 2003 consumption levels. Egg consumption is expected to increase slowly by about 5% by 2020.

⁶⁶ Source: Statistics Canada, 2001 Food Expenditures in Canada

Figure 7.6: Percentage Change in Dairy and Eggs Consumption, 2003/2020



7.4 THE FRUIT GROUP

Fruit consumption has been a real success story, driven by trends toward healthier eating, improved availability of a greater variety of fruits, and innovation by the fruit processing sector. The consumption pattern analysis and projections for the fruit group considered five forms :

- * fresh fruits;
- * canned fruits;
- * frozen fruits;
- * dried fruits; and,
- * fruit juices.

7.4.1 Correlation Analysis of the Fruit Products

Table 7.4 shows the historical correlations between the different products in this group and with the independent variables.

Fresh fruit is highly and positively correlated with most of the independent variables. The strongest indicators of demand relate positively to disposable income, and negatively to fresh fruit prices.

Importantly, as the population grows, consumption of fresh fruits grows more than proportionately.

Table 7.4: Historical Correlation Between Fruit Consumption and Independent Variables

	Fresh Fruit	Canned Fruit	Frozen Fruit	Dried Fruit	Fruit Juice	Median Age	Real PDI	Immigration	Canadian Population	Food Prices
Fresh Fruit	1.00									
Canned Fruit	-0.20	1.00								
Frozen Fruit	0.69	-0.11	1.00							
Dried Fruit	-0.08	0.26	0.16	1.00						
Fruit Juice	-0.71	0.31	-0.77	-0.23	1.00					
Median Age	0.79	0.04	0.81	0.21	-0.84	1.00				
Real PDI	0.47	0.23	0.65	0.44	-0.49	0.73	1.00			
Immigration	0.54	-0.33	0.68	0.42	-0.93	0.68	0.50	1.00		
Canadian Population	0.80	0.00	0.81	0.21	-0.87	1.00	0.71	0.72	1.00	
Food Prices	0.78	-0.03	0.82	0.28	-0.89	0.99	0.74	0.77	0.99	1.00
Health	0.84	0.03	0.82	0.19	-0.76	0.96	0.79	0.62	0.95	0.95

Canned fruit consumption stands out as not having any correlation with the health indicator, food prices or population growth, but is positively correlated with personal disposable income and negatively correlated with immigration growth. This is a logical and expected result.

Frozen fruit consumption is positively correlated with all the independent variables, and is influenced by the aging population in particular. The best regression model for projected frozen fruit consumption is, in addition to disposable income and its own price, a positive relationship with increases in the median age.

Dried fruit consumption shows a much lower, but still positive correlation to these variables, and in particular disposable income, and the level of immigration.

Finally, fruit juice consumption is strongly negatively correlated to all the independent variables. The demand for fruit juice is impacted by disposable income (positively) and its own price (negatively), and positively as Canadian population increases.

7.4.2 Fruit Consumption Analysis and Projections

Figure 7.7 summarizes the historical consumption and the individual projections for each of these fruit products. Trends toward healthy eating, variety seeking, organic options, recognition of fruit as a functional food, and snacking have all contributed to fresh and processed fruit consumption.

Most fruit in Canada is consumed fresh. Over the past 20 years there has been a moderate increase from 34 to 38 kilograms, or some 12%. Fresh fruit is also subject to “guilt buying”; it is a healthy item that moms in particular feel they just have to have on hand; as such, it is subject to some “fridge” and “lunch bag” waste. It is a convenient addition to salads. Fresh cut fruit packaged with dips, satisfies snack cravings, whether it is purchased at a fast food outlet or at the grocery store.

Frozen fruit, still a small category, has been steadily growing and is expected to continue in that direction. In fact, frozen fruit consumption is expected to be

one of the higher growth categories in future. As the population ages, there appears to be a preference for frozen fruits. The quality and variety of frozen fruit has improved dramatically over the past several years. No longer is frozen fruit limited to syrupy, mushy strawberries. Highly convenient whole berries, or frozen melon, peach and plum mixes are available year round. A handful of frozen blueberries, high in antioxidants, can easily be thrown onto a bowl of cereal, on top of a pancake or over a dish of yogurt. Frozen fruit addresses the problem of fresh fruit spoilage and waste in the home. Frozen fruits are also increasingly used as an ingredient in fast food beverages, or as a filling for pies and pastries.

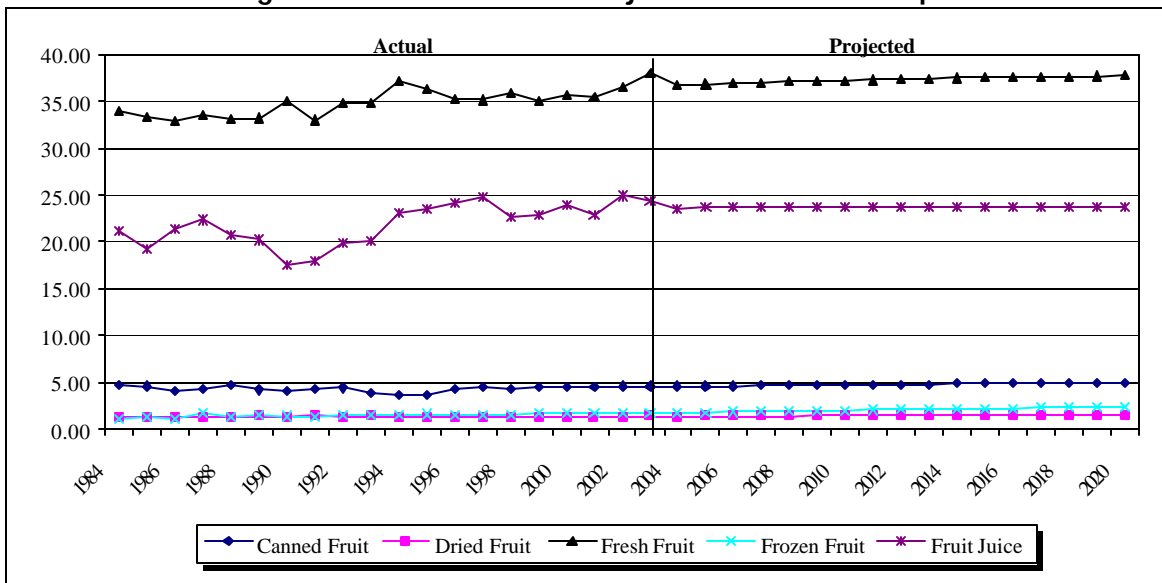
Dried fruits, also is a small consumption category, is expected to show future growth of 13% in the coming 15 years. Dried fruits and fruit leathers are nutrition packed on-the-go snacks.

Canned fruit is a slightly larger category, averaging almost 5 kilograms in consumption, and will likely

show a modest increase of about 10% in per-capita consumption by 2020. It is assumed that canned includes bottled and single serve plastic cups, the latter an ideal take-along lunch or snack product. Slower growth in this category is related to immigration. Canned fruits are not as popular within the ethnic market.

Fruit juice consumption has seen nearly a 15% increase over the past 20 years, but this increasing trend is expected to stabilize. Although generally considered a healthy food product, consumers have not been rushing to drink fruit juices. The beverage industry has responded with a variety of options in shelf-stable, chilled and fresh squeezed, exotic fruits, fruit blend, fortified fruit juice, size options and vending. Other beverage products such as soft drinks, bottled water, and tea may be substituting for fruit juice consumption. Please see Section 7.8 for a further discussion of movement within the beverage category.

Figure 7.7: Historical and Projected Fruits Consumption



Shifts within fruit types are expected to continue. The future looks bright for the continued penetration of exotic fruits. Imports of exotic fruits (listed in Table 7.5) nearly doubled between 1993 and 2003 to 214 tonnes and new exotic fruits like pomegranates, passion fruit, star fruit, dragon fruit, litchi nuts and longans have popped up in grocery stores and on restaurant plates. Between 2000 and 2003, ACNielsen reported a 38% increase in retail grocery dollar sales of fruits other than apples, bananas and citrus, which grew by 25% during this period.⁶⁷ Tropical fruits accounted for nearly 10 cents of every dollar spent in retail stores on fresh fruit in 2001.⁶⁸ The interest in exotic fruits is certainly linked to availability, especially during Canada’s winter when locally grown fresh fruit is not available. We simply get tired of the three staples, apples, oranges and bananas. Processed tropicals, including fruit juices and blends, chutneys, as well as canned, bottled and dried fruits are entering the market. Variety seeking is driven by global awareness, a willingness to try new things, healthy diets, and a desire for freshness and quality.

Type ¹	10 Year Change in Tonnes %
Unspecified Fruit ²	+56
Pineapples	+239
Guava and Mangoes	+148
Avocados	+105
Kiwi	-23
Coconut	+16
Papayas	+85

¹ Listed in order of volume of imports
² Excludes fruit in table plus pomes, stone fruit, bananas/ plantains, melons, grapes, berries, citrus, dates and figs.
 Source: Statistics Canada

7.4.3 Fruit Group Consumption Summary

Figure 7.8 summarizes the expected percentage change in consumption of each of the individual fruit

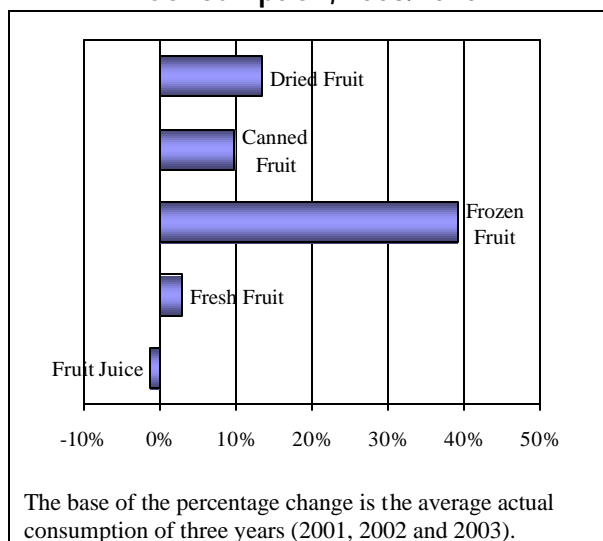
⁶⁷ “Annual Canada Consumer Expenditure Study Food Grocery Products (2003), Prepared for Agriculture and Agri-Food Canada”. Toronto: ACNielsen, March 2004.

⁶⁸ Source: Statistics Canada, 2001 Food Expenditures in Canada

products by the year 2020. Frozen fruit consumption leads with 39% growth, followed by more modest growth in dried by 13%, canned by 10%, and fresh fruit by 3% on a per-capita basis by 2020. Fruit juices will show almost no change to 2020.

Overall, the fruit category shows continuing potential as a snack product, whether whole, fresh cut with dip, dried, or preserved and packaged in individual fruit cups.

Figure 7.8: Percent Change in Fruit Consumption, 2003/2020



7.5 THE VEGETABLE GROUP

As with fruit, recognition of vegetables as the cornerstone of a healthy diet, providing vitamins, minerals and fibre, drives demand. Not surprisingly, the consumption patterns and future projections of vegetables closely follows that of fruit.

This evaluation separates vegetables into five commodities based on product form:

- * fresh vegetables;
- * canned vegetables;
- * canned tomatoes;
- * frozen vegetables; and
- * vegetable juices.

As a category, vegetable consumption is expected to show slow but steady increase in consumption until 2020.

The health benefits of vegetables as a functional food (e.g. as for cancer prevention), availability of convenient fresh cut and washed produce, as well as the adoption of Asian diets, have all contributed to the increase in vegetable consumption. Excitement has been added to the category with fresher “on the stem” produce and nearly year-round supply of many vegetables with imports, as well as growth in organic availability.

It's in the Bag

A high growth grocery store category was identified by ACNielsen in 2004, both globally⁶⁹; “fresh, ready-to-eat salads”, and in Canada⁷⁰, “value-added broad leaf produce” and “bagged salads”. The complementary category of “refrigerated salad dressing” was also growing, as was “seasonings including salad toppings”. Fresh, washed salad greens are very convenient. They serve nicely as a lunch or main dish complement. Salad greens are no longer limited to traditional iceberg and romaine lettuce types; colour and variety are offered with leaf lettuce, beet greens, spinach leaves, radicchio, collard greens, rapini, endive, and arugula. Mixed bagged greens offer variety without having to buy several heads of different types of lettuce. Technological advances in packaging (known as modified atmosphere packaging) extend shelf life and the consumer can see the quality and product freshness through the film. They address a consumer frustration in dealing with waste and wilted produce in the crisper, and respond to the practice of less frequent grocery shopping. Packaged produce provides the opportunity for branding and displaying claims such as “organic”. Value-added produce is also available in bulk to the food service sector. While the recent growth in salad greens may have been stimulated by the low-carb fad popularized in the early years of the new millennium, salads continue to satisfy a need for healthy eating.

⁶⁹ “What’s Hot around the Globe: Insights on Growth in Food and Beverages 2004” ACNielsen Global Services.

⁷⁰ “Annual Canada Consumer Expenditure Study Food Grocery Products (2003), Prepared for Agriculture and Agri-Food Canada”. Toronto: ACNielsen, March 2004.

7.5.1 Correlation Analysis of Vegetable Products

Table 7.6 summarizes the correlation coefficients between the different vegetable groups and the independent variables. All vegetable categories, with the exception of vegetable juices, are positively correlated to the independent variables. The highest coefficients are noted between vegetables and growth in the Canadian population, food prices, and the health indicator. It is suggested that the positive correlation with the health indicator is simply an indication that the consumption is moving in the same direction, versus causality.

Frozen vegetable demand is classically related to disposable income, and to its own price.

Vegetable juice consumption is negatively correlated with all the independent variables. As was found with fruits juices, vegetable juice consumption shows the opposite direction (negative) of correlation with the independent variables.

7.5.2 Consumption Analysis and Projections

Figure 7.9 illustrates the historical and projected consumption trends in vegetable products.

Fresh vegetable consumption (including greens) is by far the largest single consumption item on a volume basis. Consumption has grown from some 67 kilograms in 1984 to 77 kilograms over the past 20 years, or by 15%. Future very modest growth is expected in the consumption of fresh vegetables over the next 15 years. While freshness is desired, past trends toward convenience products are expected to continue. A key factor affecting fresh vegetable consumption is the availability and price of substitute processed vegetables.

Canned vegetables are the second largest vegetable consumption item. Its consumption has remained almost constant at just under 12 kilograms per person over the past 20 years. A modest growth of 6% is expected over the next 15 years. It is correlated to many of the same factors and trends as are fresh vegetables. These trends, linked to changes in the median age and population growth in particular, are expected to continue in the same magnitude. Canned vegetables are a convenient and long-accepted product within an aging population. It is assumed that the continued modest growth in canned vegetables is

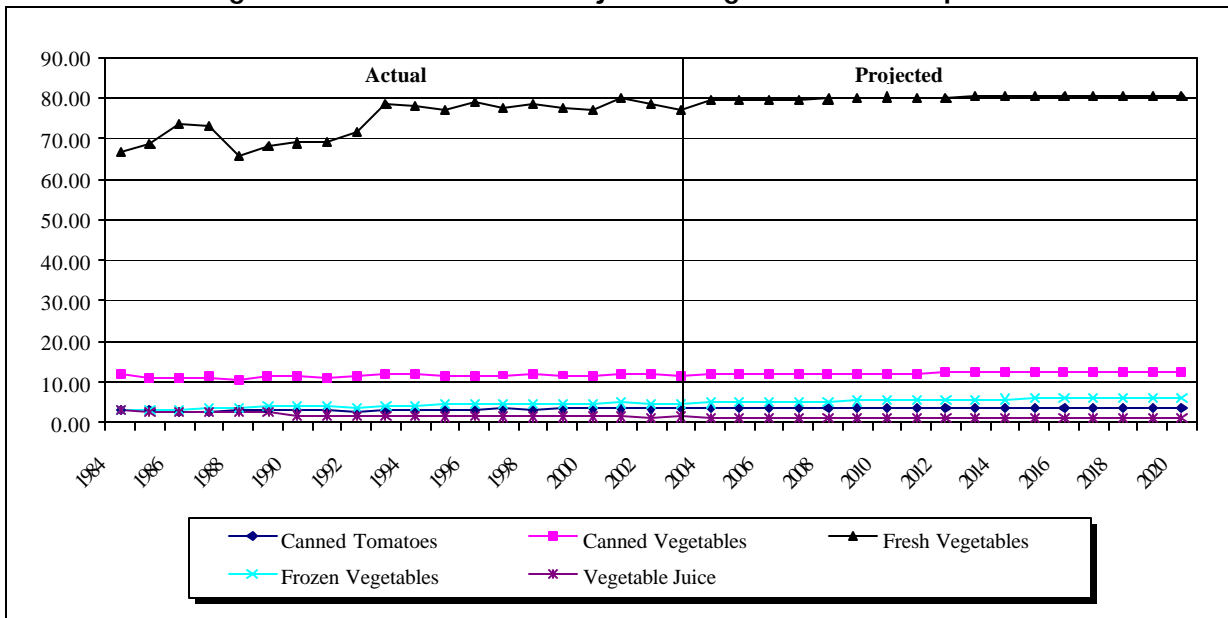
linked to certain ethnic products that are not consistently available in fresh form. Canned tomatoes

are popular because of their use as an ingredient in Italian, Mexican and other dishes.

Table 7.6: Historical Correlation Between Vegetable Consumption and Independent Variables

	Fresh Veg.	Frozen Veg.	Canned Tomatoes	Canned Veg.	Veg. Juices	Median Age	Real PDI	Total Immigration	Canadian Population	Food Prices
Fresh Vegetables	1.00									
Frozen Vegetables	0.72	1.00								
Canned Tomatoes	0.64	0.74	1.00							
Canned Vegetable	0.65	0.48	0.60	1.00						
Vegetable Juices	-0.82	-0.86	-0.61	-0.53	1.00					
Median Age	0.80	0.92	0.81	0.55	-0.90	1.00				
Real PDI	0.33	0.68	0.50	0.26	-0.54	0.73	1.00			
Total Immigration	0.54	0.73	0.31	0.33	-0.83	0.68	0.50	1.00		
Canadian Population	0.81	0.93	0.79	0.56	-0.93	1.00	0.71	0.72	1.00	
Food Prices	0.77	0.93	0.73	0.51	-0.93	0.99	0.74	0.77	0.99	1.00
Health	0.75	0.85	0.80	0.55	-0.83	0.96	0.79	0.62	0.95	0.95

Figure 7.9: Historical and Projected Vegetable Consumption



Frozen vegetables, a relatively small category, are forecasted to show the greatest rate of growth within the vegetable food category. Frozen vegetable consumption is expected to increase by another 33% over the next 15 years. It grew by 44 % over the last 20 years.

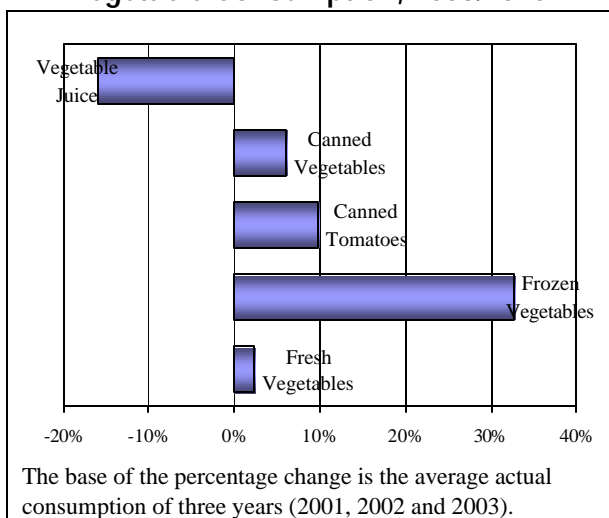
The one product in this group that is not expected to grow is vegetable juices. Vegetable juice consumption has declined from 3.0 to 1.3 kilograms over the past 20 years or by 57%. The projections indicate a continued decline of another 16% over the next 15

years. In the light of the changing consumer attitudes toward eating better and being more health conscious, this trend is somewhat counter-intuitive. On the other hand, juices like Campbell’s V8 juice have dominated this category, but are notoriously high in sodium. There is the potential for a break in the decline of both fruit and vegetable juice consumption if new products and strong marketing campaigns capture the consumer health and nutrition waves. Vegetable/fruit juice blends are now on the market, responding to demand for less sweet but more nutritional beverages.

7.5.3 Vegetable Group Consumption Summary

In summary, as illustrated in Figure 7.10, all vegetable consumption categories are expected to increase by 3 to 33% over the next 15 years, with the exception of juices. The juice consumption is expected to fall by as much as a further 16%.

Figure 7.10: Percentage Change in Vegetable Consumption, 2003/2020



7.6 CEREALS, PULSES AND NUTS, AND SUGAR

This category represents high carbohydrate foods, cereals, pulses and nuts, as well as sugar and syrups.

7.6.1 Correlation Analysis of Cereals, Pulses and Nuts, and Sugar Products

Table 7.7 presents the level of historical correlations between these food products and the independent variables.

Cereal products, which includes bread, breakfast cereals, and other bakery products, is positively correlated with all the independent variables. As would be expected, consumption of cereal products is correlated to these factors based on economic theory and demographic and social trends identified in the qualitative section of this report. The strongest indicator for cereal consumption is related to general population growth, disposable income, cereal prices, and all food price changes.

Pulses and nuts are similarly positively correlated with these same economic and demographic variables. It is of particular note, that pulses, nuts and cereal products are strongly and positively correlated to the health indicator. The main correlating and predictive factors behind consumption in addition to disposable income, is the prices of nuts, all food prices and growth in the Canadian population.

Table 7.7: Historical Correlation Between Cereals, Pulses and Nuts, and Sugar Consumption and Independent Variables

	Cereal Products	Pulses/ Nuts	Sugars/ Syrups	Median Age	Real PDI	Immigration	Canadian Population	Food Prices
Cereal Products	1.00							
Pulses and Nuts	0.83	1.00						
Sugars and Syrups	-0.05	-0.02	1.00					
Median Age	0.20	0.30	-0.04	1.00				

Real PDI	0.95	0.84	-0.13	0.26	1.00			
Immigration	0.69	0.47	-0.24	0.25	0.73	1.00		
Canadian Population	0.50	0.49	-0.24	-0.06	0.68	0.50	1.00	
Food Prices	0.93	0.84	-0.14	0.23	1.00	0.71	0.72	1.00
Health	0.89	0.80	-0.15	0.23	0.99	0.74	0.77	0.99

Sugars and syrups are marginally and positively correlated to all the independent variables with the exception of the level of immigration. One inference may be that the growing immigrant population which is primarily Asian in nature, are not as significant consumers of these types of sweets as are other Canadians.

7.6.2 Cereals, Pulses, Nuts and Sugar Historical Consumption Analysis and Projections

The historical and future consumption of cereals, nuts and pulses, as well as sugar and syrups are illustrated in Figure 7.11.

Cereal consumption for most of the historical period has increased. However beginning in 2000, cereal consumption growth appears to have slowed. In 2003 for example, there was even shown to be a small decline in consumption, due possibly to the Atkins diet fad. Children's cereals will stagnate with the decline in this age group; however, the consumption projections indicate that the consumption of cereals will likely pick up again. This is assuming that the cereal manufacturers continue to respond with healthy, adult oriented alternatives such as convenient single-serve hot cereals, breakfast cereal bars and healthy snack foods. Artisan, whole grain, fresh breads and buns, supported by the growth in the sandwich industry, also appeal to an adult market. An

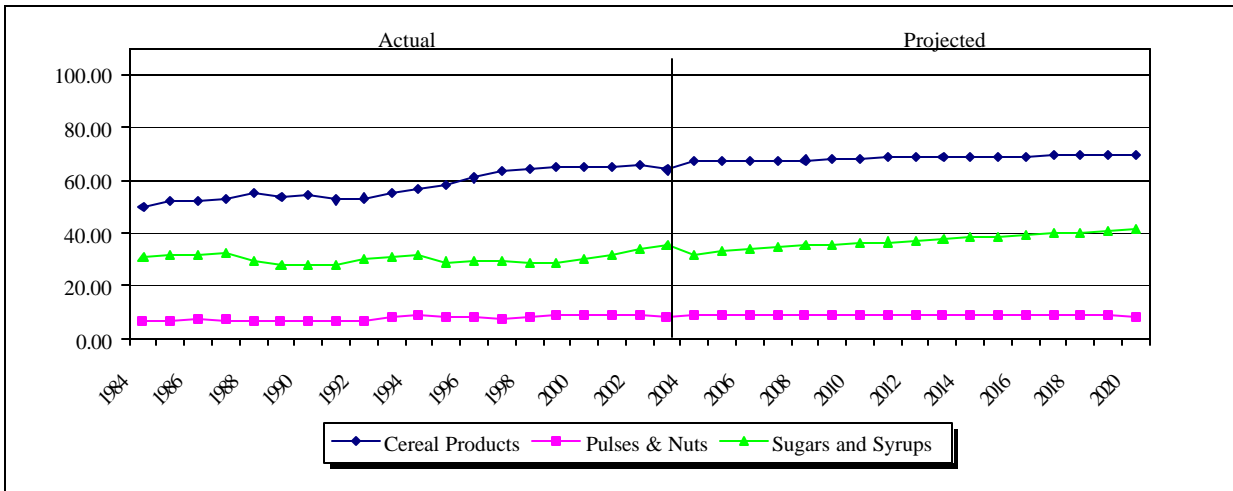
interesting category to watch will be that of salty, fried snacks made from grains like corn and wheat. Removal of trans-fats from crackers and snack products may stimulate new interest in these products. Trends suggest that people are seeking healthier snack alternatives, overall. Fresh fruit and vegetables are, for example, becoming a substitute for grain-based snacks.

While **pulses and nut** consumption has been flat between 1994 and 2003, concerns about health may lead to more positive growth in these items than is projected. Pulses and nuts are an excellent protein source, and therefore support non-meat, or meat-reduced diets. Pulses and chick peas in particular are a staple of many Middle Eastern and Asian diets, and with increased immigration, growth is very likely. While pulse production is growing in Canada, most of these products are exported as commodities to Middle East and Asian countries like Sri Lanka and Egypt.

Note that Canadian consumption of pulses (particularly lentils) and a related category soy, have not historically been tracked in the consumption data.

The nut category is somewhat interesting. Nuts, and particularly peanuts, may be avoided for reasons of food allergies. Peanut butter, very popular with children, in turn representing a large portion of the nut category, is expected to decline with an aging population.

Figure 7.11: Historical and Projected Pulses, Nuts, Cereals, Sugars and Syrups Consumption



Going Squirrelly

With the trend to non-meat dishes and recognition of the health benefits of eating raw almonds, and oat-containing products, sales of convenient protein and fibre rich products are on the rise. ACNielsen⁷¹ reported these increases in grocery store sales between 2000 and 2003:

- 57% increase in shelled nut sales;
- 34% increase in granola snacks; and
- 32% breakfast cereal bars.

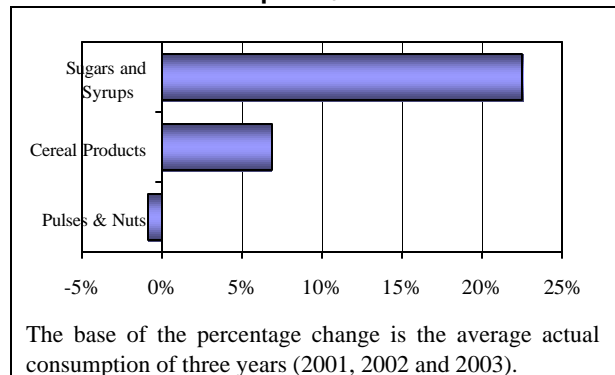
The breakfast cereal bar category, a relatively new entrant, satisfies the need for a convenient and nutritious “grab and go” meal replacement. Breakfast bars are replacing products like high fat muffins and high carb bagels as the breakfast or mid-morning snack of choice.

Sugars and syrups have shown a modest increase in consumption and this is expected to continue. This increase, which on one hand could be hypothesized to be counter to some of the major health trends, is likely explained by the use of sugars as an ingredient in other products, particularly beverages. There is a move afoot by the soft drink industry to introduce sugar substitute blends or reduce bottle/can sizes, which may soften or even reverse the trend projection.

7.6.3 Cereals, Pulses, Nuts and Sugar Consumption Summary

In summary, the expected overall percentage change in consumption of these food items is illustrated in Figure 7.12. Cereals products are expected to show an increase of about 7% over this period. Pulses and nuts are projected to remain almost constant, but again, this trend may be reversed. Sugars and syrups are expected to show reasonable, continued growth of over 20% by 2020.

Figure 7.12: Percentage Change in Pulses, Nuts, Cereals, Sugars and Syrups Consumption, 2003/2020



⁷¹ “Annual Canada Consumer Expenditure Study Food Grocery Products (2003), Prepared for Agriculture and Agri-Food Canada”. Toronto: ACNielsen, March 2004.

7.7 BEVERAGE CONSUMPTION

An analysis of the historical consumption patterns and projections for future consumption of selected beverages follows. This evaluation separates beverages into four product groups. These are:

- * coffee;
- * tea;
- * soft drinks; and
- * alcoholic beverages.

Please also refer to the Egg and Dairy Section (7.2) and the Fruit and Vegetable sections (7.3 and 7.4) for further insights into fluid milk, fruit and vegetable juice consumption.

One of the most interesting categories to watch in future is the expansion in non-alcoholic beverages. ACNielsen identified this category as the largest growth category in retail grocery sales value worldwide in 2004 over 2003⁷².

Beverages showing the greatest retail growth in Canada during this period were⁷³:

- * ready-to-serve iced tea (not in cans);
- * coffee creamers;
- * hot chocolate;
- * rice drinks;
- * whole bean coffee;
- * bottled water (less than 18 litres);
- * soya drinks;
- * chilled juices, drinks and nectars;
- * ready to serve iced tea (in cans); and
- * specialty teas.

Products like drinkable yogurts and sports/energy drinks also showed excellent growth internationally. New and innovative products have resulted in significant fragmentation of the non-alcoholic beverage market. In response, soft drink

manufacturers are introducing flavour options like Vanilla Coke and Cherry Pepsi, or sugar/artificial sweetener blends, which are lower in calories. New juice blends, exotic fruit juices, and fruit beverages have created excitement in this category as has expansion to fresh squeezed and chilled options to complement the traditional frozen concentrate and shelf stable tetra-pack and bottled product.

Even the bottled water market is expanding with herbal infusions, fortification, or flavourings. According to Statistics Canada, bottled water available for consumption in Canada increased from just under 18 litres per person in 1995 (4.7% of total beverage consumption) to nearly 30 litres (6.9%) in 2001, for a 66% increase. Total beverages available for consumption (including bottled water) increased by just 12% during this period. Canadians spent about 250 million dollars on bottled water in containers less than 18 litres in 2003, an 11% increase over the previous year, according to ACNielsen (retail grocery store sales only).⁷⁴

Beverages are the ultimate convenience food. They can be picked up almost anywhere, packed along, consumed in an instant or while on the go, at any time of day, and require no or little preparation. They can even be used as a solid food substitute. Soy beverages pack a protein punch; fruit or vegetable juices are loaded with vitamins and fibre; and drinkable yogurt gives a calcium and protein boost. They can be formulated with sugar or caffeine to provide an energy hit, presented artificially or unsweetened as a low carb alternative, or sold on natural and healthful benefits. Beverages are the perfect carrier for fortification. Tea, soy, rice and yogurt drinks reflect the growing influence of Asian and other cultures in our diets.

Beverages lend themselves to age and lifestyle specific targeting, supported by the many packaging options and the ability of these packages and bottles to carry unique graphics. Because many beverages are consumed in social settings, branding is key; drinking certain beverages helps to define personality. Alternatively, "anti" consumers might avoid branded products in favour of refillable water bottles or insulated cups, particularly if they are concerned with the ever-growing issue of recycling or disposing of beverage containers.

⁷² "What's Hot around the Globe: Insights on Growth in Food and Beverages 2004" ACNielsen Global Services.

⁷³ "Annual Canada Consumer Expenditure Study Food Grocery Products (2003), Prepared for Agriculture and Agri-Food Canada". Toronto: ACNielsen, March 2004

⁷⁴ Ibid.

Red Bull: A Case Study

Energy drinks like Red Bull are becoming particularly popular as a late or all-night stimulant for the clubbing set, students or video gamers under 30, and as a replacement for the morning coffee boost. A 250 ml can of Red Bull has about as much caffeine as a cup of coffee (80 mg), taurine - an amino acid, and B vitamins. It is touted to improve performance, vigilance, concentration and reactions, as well as stimulate the metabolism. The popular Thai tonic drink called Krating Daeng (Red Bull) was introduced by a cab driver to entrepreneur, Dietrich Mateschitz while on a sales trip in East Asia. He recognized the drink's potential after having his jet lag "cured" and obtained the licence for the western market. Produced in Austria and introduced to the United States in the 1990's, Red Bull entered the Canadian market in June of 2004, thanks to changes in Natural Health Products Regulations (under the Food and Drug Act administered by Health Canada) that allow a product to be sold if a company can back up its claims as a functional food. Red Bull's success, according to Mateschitz, is its unique positioning as a pleasurable, yet functional drink, targeted at the educated, vigorous and well paid youth market. "You don't drink Red Bull. You use it," the ads proclaimed. "You've got better things to do than sleep". Red bull gives you wings". A key element of Red Bull's marketing strategy has been organizing extreme sporting events.

Source: The Calgary Herald, February 3, 2005; "The Buzz Surrounding Energy Drinks", National Geographic, "Why We Love Caffeine", January, 2005.

7.7.1 Correlation Analysis of Beverages

Table 7.8 indicates the degree of correlation between the various beverage consumption products and the independent variables.

Coffee is seen to positively correlate with all the independent variables. It is impacted by income,

immigration trends, and the median age. In that sense it is likely consumed by a very broad cross section of people.

Tea consumption shows similar correlations, but is negatively correlated with immigration levels. This suggests that this particular group in the population, are not big tea drinkers as are other Canadians. It is of interest to note there is a fairly high degree of positive correlation between tea and coffee consumption, suggesting the obvious, that these two products are substitutes for one another.

The demand for tea and coffee are both shown to be not classically related to their own price changes. In fact, demand for both these beverages has increased as their real prices have increased.

Soft drinks are quite strongly correlated with all the independent variables, and of particular note, with the health index. This is an expected result, because soft drink consumption, with its high levels of sugars, has a direct link to obesity. Soft drink consumption demand is positively related to the median age, as well as income and relative own and substitute prices.

Alcoholic beverages have completely opposite correlations than those exhibited by coffee, tea, and soft drinks. There is some rationale for this. For one, this would suggest that the new immigrants to the country are not likely as heavy consumers of alcohol as are other Canadians. Secondly, the negative correlation with disposable income, could suggest that consumption of these drinks is not very responsive to one's level of income. Demand is impacted by the growth in the Canadian population, and with respect to all food price increases.

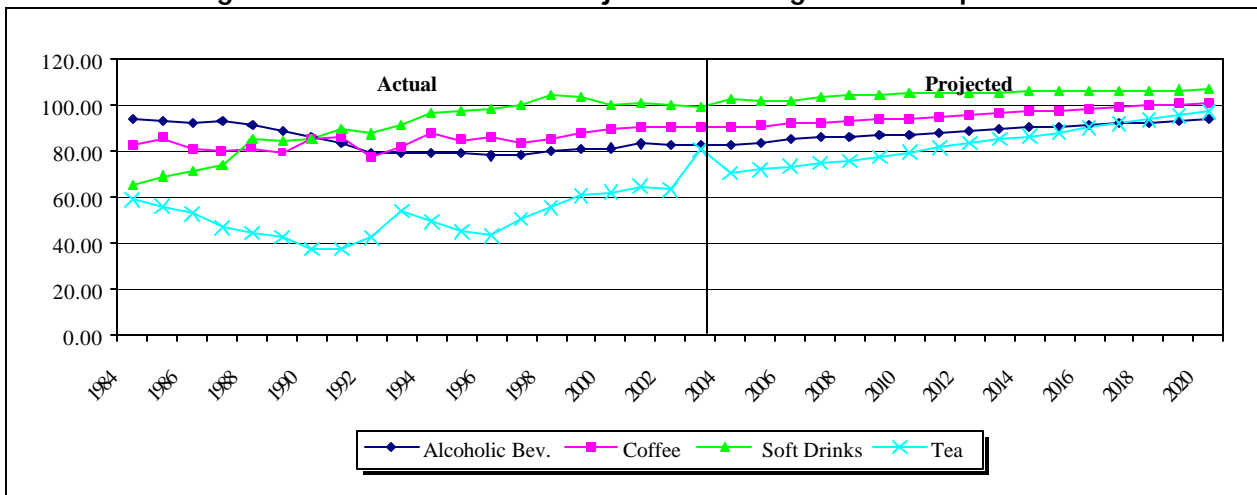
7.7.2 Beverage Consumption Analysis and Projections

Figure 7.13 shows the results of the analysis and projections for coffee, tea, soft drinks and alcoholic beverage products.

Table 7.8: Historical Correlation Between Beverage Consumption and Independent

Variables									
	Coffee	Tea	Soft Drinks	Alcoholic Bev.	Median Age	Real PDI	Immigration	Canadian Population	Food Prices
Coffee	1.00								
Tea	0.59	1.00							
Soft Drinks	0.60	0.24	1.00						
Alcoholic Bev.	-0.38	-0.03	-0.87	1.00					
Median Age	0.74	0.56	0.92	-0.74	1.00				
Real PDI	0.62	0.50	0.58	-0.24	0.73	1.00			
Immigration	0.32	-0.04	0.77	-0.82	0.68	0.50	1.00		
Canadian Population	0.72	0.51	0.93	-0.78	1.00	0.71	0.72	1.00	
Food Prices	0.69	0.46	0.93	-0.78	0.99	0.74	0.77	0.99	1.00
Health	0.78	0.64	0.83	-0.62	0.96	0.79	0.62	0.95	0.95

Figure 7.13: Historical and Projected Beverages Consumption



Coffee consumption, which has increased by 10% per-capita over the past 20 years, and is projected to increase at a similar rate. **Tea** consumption has recently enjoyed a huge explosion in consumption. In 2003 in particular, tea consumption spiked at 80 litres per-capita.⁷⁵ Likely this trend will continue until 2020. Coffee consumption, like tea, is a mainstay product, and will follow the trends in the Canadian

population, and changes in the median age in particular. As noted in the discussion on cream (Section 7.2.2) both coffee and tea consumption have increased in parallel with the explosion of coffee houses as a social gathering place, on-the-go consumption, as well as shifts from alcoholic beverages. Demand for coffee and tea does not appear to be price sensitive. In a sense, they fit into the category of luxury goods and satisfy the need for “small indulgences” among a more sophisticated, and aging population. A key advantage of both coffee and

⁷⁵ Note, Statistics Canada revised its consumption estimate for tea after this analysis and forecasts were developed.

tea are “no calories”, and added calories can be controlled with the addition of dairy products of various fat contents or sweeteners.

Soft drinks are a growing consumption category. Over the past twenty years they have gradually outpaced the rate of consumption both of tea and coffee. Of the beverage drink category, soft drinks are now the single greatest beverage of choice in Canada, and are predicted to remain so. Historical consumption has been quite variable but overall, an increase in consumption of 51% from 1984 to 2003 has been observed. Between 1998 and 2003 a slight downward trend was evidenced, however, it is too soon to tell if this trend will be sustained or even accelerate. The forecast, based on the 20 year time-series, shows a moderate future increase of another 7% in total until 2020. The growth in this category, to a certain extent, helps to explain the decline in both fruit and vegetable juice consumption, and perhaps even fluid milk. The growth in exotic and complex soft drinks are likely cannibalizing these more traditional and healthy drinks.

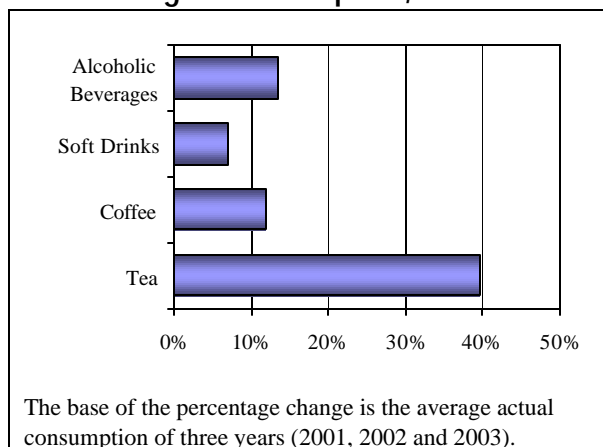
Alcoholic beverage consumption has shown a steady per-capita consumption rate decline for most of the historical period, but with more of a levelling off in recent years. A key factor here is the aging of the baby boom population, who were likely higher consumers in their younger years. The switch to coffee and caffeine stimulants may have had an impact on the decline in alcoholic beverage consumption in past. Drinking and driving programs as well as a tendency for youth to eat and drink rather than just visit bars for social occasions have also contributed to the decline in alcoholic beverage consumption. The future consumption of alcohol is expected to increase modestly by another 13% over the next 15 years, do in part to increased wine consumption. Wine and food go hand in hand, and consumers, particularly aging baby-boomers past the “family years” are attending wine courses, festivals or taking vineyard tours at increasing rates. The health benefits of red wine have also been recognized of late. Spirits are also trending upward, while beer consumption is slipping.

7.7.3 Beverage Consumption Summary

Figure 7.14 provides an overall summary of the projected percentage growth in selected beverages. Tea consumption is expected to show the greatest

growth within the beverage category of almost 40%. The other beverages will show more modest growth between 7 and 13% over the next 15 years.

Figure 7.14: Percentage Change in Beverages Consumption, 2003/2020



7.8 OIL AND FATS CONSUMPTION

The oils and fats category encompasses butter, margarine, salad oils, and shortening and shortening oils. Salad oils include cooking oils such as canola and other vegetable oils (soy, peanut, olive, sunflower, cotton, rapeseed/canola, corn, sesame, safflower, other oils, and blended oils; all refined oils suitable for consumption). Salad/cooking oils do not include liquid oils that have been processed into solid shortening. Shortening may be melted for deep frying, or incorporated in to baked goods, for example, while salad oils can also be used for cooking, in baked goods, or as a key component of salad dressing, sauces and other condiments.

The projections below present the whole category of fats and oil consumption, and two major sub products of margarine and salad/cooking oils .

7.8.1 Correlation Analysis of Fats and Oils

Table 7.9 presents the correlations between these food products and the independent variables.

Of these food products, margarine stands out as being negatively correlated with all the independent variables. Consumption of margarine appears to go against the major economic, social and demographic food trends within Canada, including immigration.

On the other hand, the consumption of salad/cooking oils and of the whole category, fats and oils, is more positively correlated with all the independent variables. Statistically, demand is found to be classically related to income and own prices. In particular, and what is an expected result, fats and oils, and salad/cooking oils are positively correlated to the health indicator. As the consumption of these foods goes up, the level of obesity goes up as well.

7.8.2 Fats and Oils Consumption Analysis and Projections

The historical and future consumption of these food items are illustrated in Figure 7.15.

Historical consumption of the total fats and oils category has followed two patterns. Until the late 1990's, the rate of growth of fats and oils was significant. However over the past four to five years, the rate of growth in consumption has been much more conservative, in fact almost flat. Over the past 20 years, the total growth has been 38%. However, shifting consumer preferences and health trends appear to have slowed the rate of consumption in these products. Consumer awareness as to the level of fats in their diets has likely contributed to this

change. At the same time, the regression analysis suggests that there will be continued growth of another 30% in total fats and oils over the next 15 years.

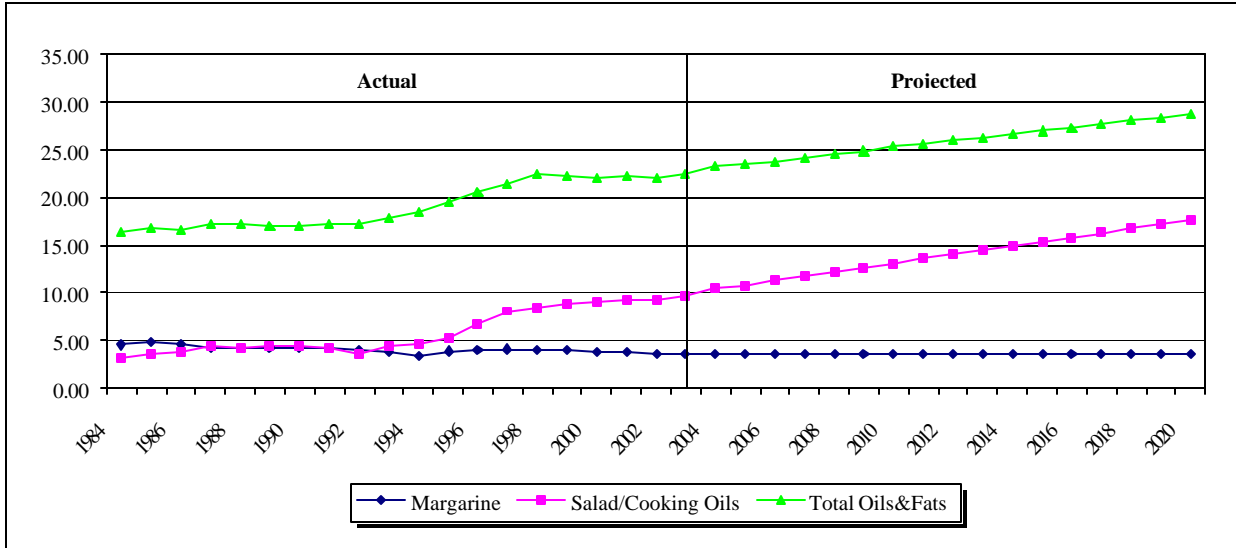
Margarine, as a sub-category, has shown a steady decline in consumption, and this is expected to continue to decline. An important factor in declining margarine consumption has been found to be the level of Asian immigration. It appears as immigration increases, margarine consumption declines, likely reflecting a desire in this population to consume more natural products such as butter, or not use this product at all. Margarine, and particularly margarine made from hydrogenated vegetable oils, has declined due to trans-fat awareness and avoidance. In the future, margarine consumption is expected to remain almost constant or show a modest decline over the next 15 years.

Salad/cooking oil consumption, much like the total fats and oils category, has shown over the first part of the historical period a fairly significant rate of growth, and has more recently slowed. However, of all food categories, oils are expected to show the greatest total consumption growth, by nearly 88% over the next 15 years. In 2003, salad/cooking oils represented 31% of the total fat and oil group (just under 10 kg per-capita). By 2020, this share will have increased to 44% of the total oils and fats group (to just under 18 kg). It should be noted that actual ingestion of oils is different from consumption in that much of the oil used to fry foods is discarded.

Table 7.9: Historical Correlation Between Oil and Fats Consumption and Independent Variables

	Margarine	Salad/Cooking Oils	Total Oils and Fats	Median Age	Real PDI	Immigration	Canadian Population	Food Prices
Margarine	1.00							
Salad/Cooking Oils	-0.56	1.00						
Total Oils and Fats	-0.59	0.98	1.00					
Median Age	-0.77	0.93	0.95	1.00				
Real PDI	-0.54	0.73	0.64	0.73	1.00			
Immigration	-0.80	0.43	0.45	0.68	0.50	1.00		
Canadian Population	-0.79	0.91	0.93	1.00	0.71	0.72	1.00	
Food Prices	-0.81	0.87	0.89	0.99	0.74	0.77	0.99	1.00
Health	-0.83	0.89	0.88	0.96	0.79	0.62	0.95	0.95

Figure 7.15: Historical and Projected Oils and Fats Consumption

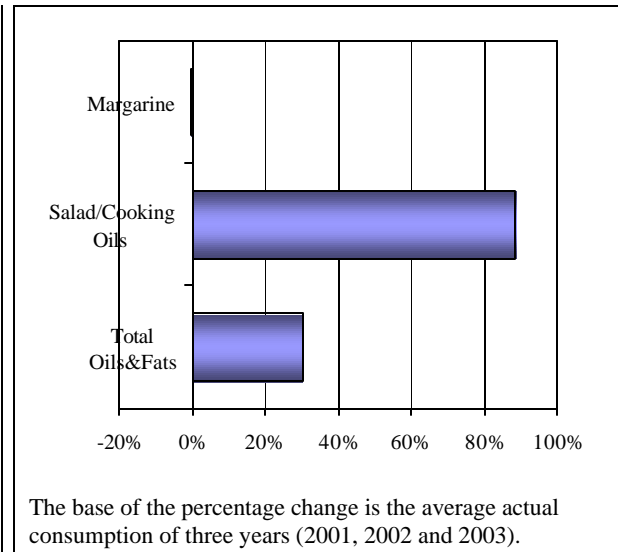


Substitutions within the oil and fat category have, and will likely continue to occur as consumer acceptance of “healthy” fats like non-hydrogenated canola and olive oil continues. Switching of fats is also a function of adoption of Mediterranean cuisine.

7.8.3 Fats and Oils Consumption Summary

The projected percentage change in consumption expected by 2020 is shown in Figure 7.16.

Figure 7.16: Percentage Change in Oils and Fats Consumption, 2003/2020



What can be observed is that overall consumption of oils and fats appears to be continuing on an upward trend. If health and wellness interventions are successful, in combination with the will of many Canadians to improve their lifestyle and diets, the projections identified in the figure following, may in fact be over stated. With heightened awareness, avoidance of trans-fats and fried foods because of the risk of acrylamides, may in turn lead to a reduction in overall fat consumption, a possibility that is not captured in the projections.

7.9 SUMMARY ANALYSIS

This section summarizes the results of the food consumption projections for the thirty different food products or categories. The percentage change in per-capita consumption between 2003 and 2020 has been assembled for all selected food products, ranked and graphed in Figure 7.17.

The food products and categories are classified into five different classes, based on the relative future growth in consumption per-capita expected between 2003 and 2020. These growth categories are described below.

Outstanding Growth: Over 35%

- * Salad/cooking oils
- * Cream
- * Lamb meat (specialty meats)
- * Tea
- * Frozen fruit
- * Poultry meat

Significant Growth: Over 20% and Under 35%

- * Fish meats
- * Frozen vegetables
- * Total oils and fats
- * Cheese

- * Sugars and syrups

Modest Growth: Over 5% and Under 20%

- * Dried fruits
- * Alcoholic beverages
- * Coffee
- * Canned fruits
- * Canned tomatoes
- * Soft drinks
- * Cereal products

No Growth: Between +/- 5 %

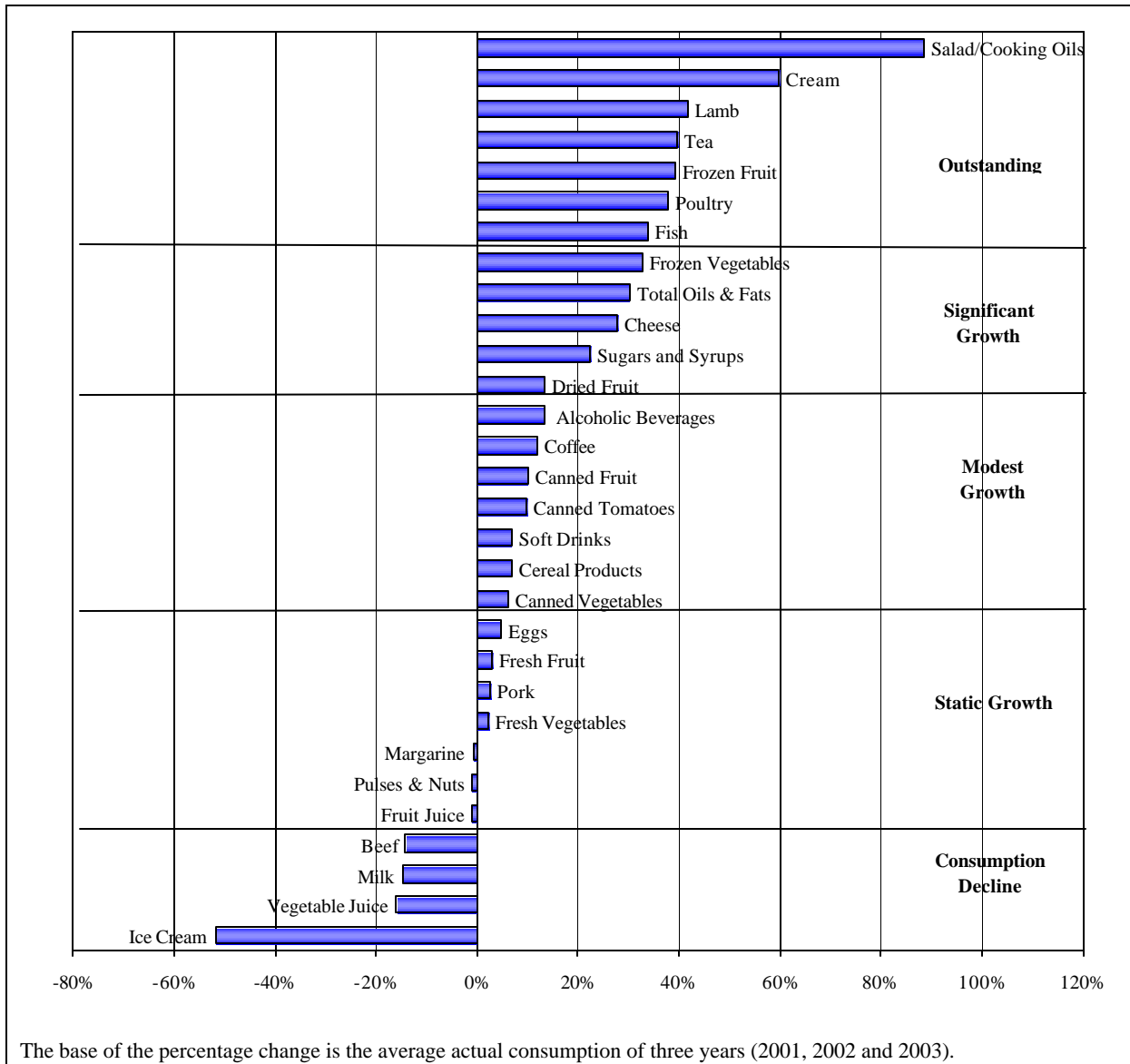
- * Canned vegetables
- * Eggs
- * Pork meat
- * Fresh vegetables
- * Margarine
- * Pulses and nuts
- * Fresh fruit
- * Fruit juices

Decline: Greater Than 5%

- * Beef meat
- * Milk
- * Vegetable juice
- * Ice cream

In comparative terms salad/cooking oils show the greatest difference between historical growth and the expected future growth rates. There has been a structural shift historically, in that in the latter part of this period, consumption growth dramatically slowed down.

Figure 7.17: Projected Per-Capita Consumption to 2020

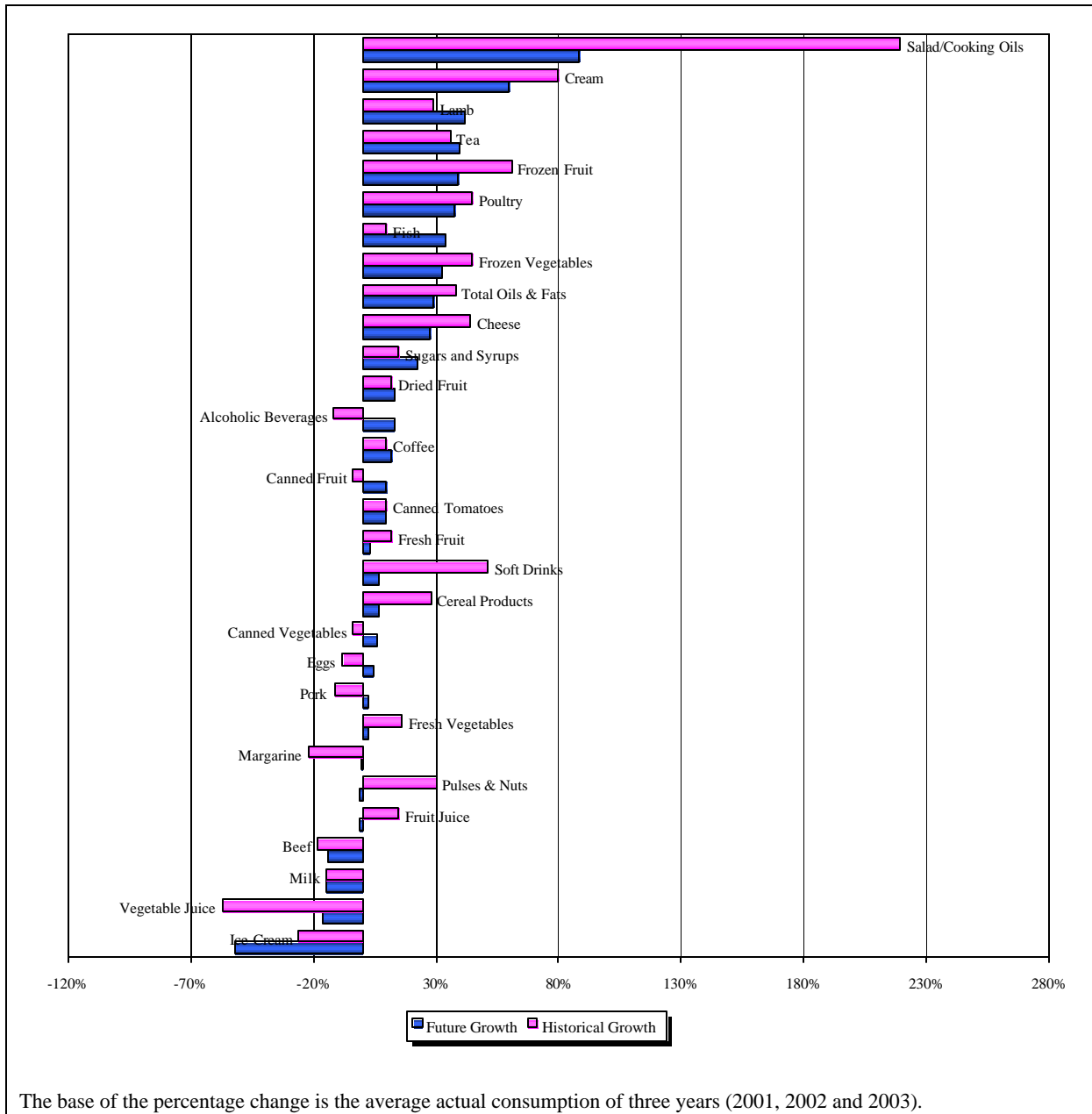


Lamb, fish, sugars and syrups, dried fruit, coffee and tea, will all grow at an even faster rate than the positive historical growth trend.

Declining historical trends in alcoholic beverages, canned fruit and vegetables, eggs, and pork will be reversed to positive growth in these categories.

Beef, milk, margarine, fruit and vegetable juices will continue to decline but a slower rate than was observed historically. Only ice cream will decline at an accelerated rate than had been observed historically.

Figure 7.18: Comparison of Historical and Future Growth Rates in Per-Capita Consumption



8.0 CANADIAN POPULATION AND AGGREGATE DISAPPEARANCE PROJECTIONS

8.1 PER-CAPITA DISAPPEARANCE AND CONSUMPTION

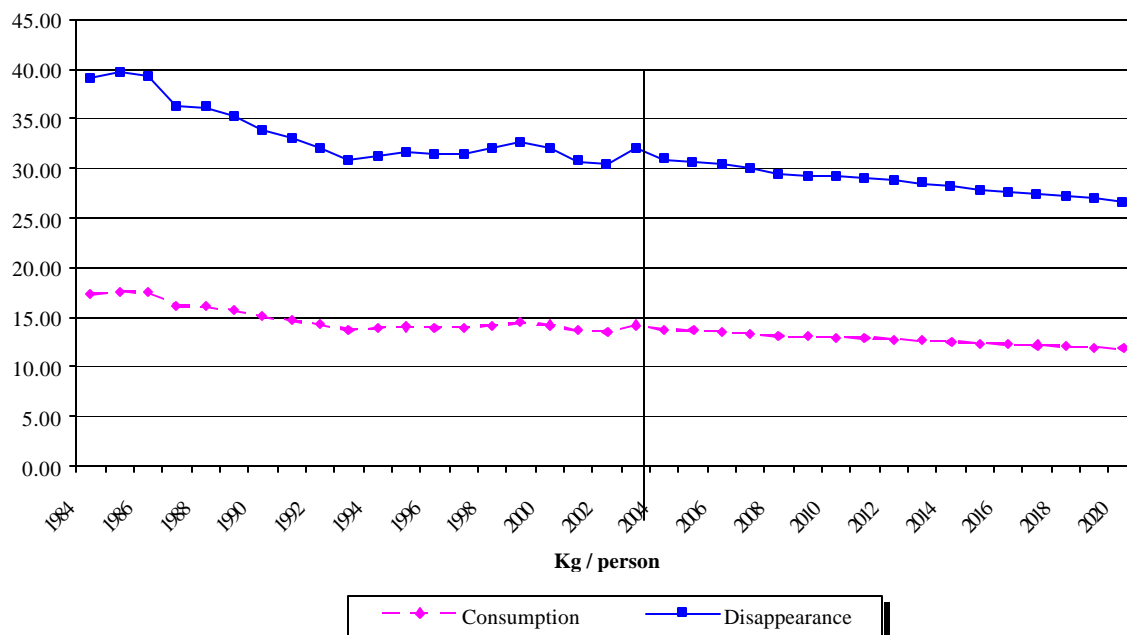
At the aggregate or total level for each commodity, the projections that are of most interest to the industry and government policy makers relate to disappearance. Disappearance refers to how much of each commodity needs to enter the market in future, given the projected growth in the Canadian population and the relative per-capita demand, considering all the relevant consumer trends and drivers. It is important to note that the disappearance projections detailed in this section refer only to

domestic demand and are not reflective of export markets.

The analysis of food trends in Section 7.0 focused on the level of per-capita consumption, rather than disappearance. There is a considerable difference between consumption and disappearance, the latter including the wastage from marketplace to consumer.

The figure below illustrates, using the beef example, the levels of consumption and disappearance in beef over the past 20 years, and projected ahead to 2020. Disappearance in 2003 was 31.98 kilograms, which if measured in consumption terms, was 14.21 kilograms per person. By 2020, disappearance is expected to decrease to 26.7, and consumption is estimated at 11.84 kilograms.

Figure 8.1: Canadian Beef Per-Capita Consumption and Disappearance



Projections of annual per-capita consumption and disappearance are provided in the tables below, for all the food commodities and groups evaluated, by selected years, from 1984 to 2020. The percent change expected in consumption between 2003 and 2020 is included for each food item and category in the two tables. It should be noted that the percent change whether consumption or disappearance is the same. The base year used (2003) was actually the average of consumption for 2001, 2002 and 2003, in order to adjust for annual fluctuations. For example,

beef consumption peaked in 2003 due to consumer response to the BSE situation, so if 2003 had been taken as the base year on its own, it would have been overstated relative to more normal demand during this period, and the resulting change in consumption to 2020 would have been negatively distorted. These percentage changes apply equally to the consumption table. Note that the consumption, as a percentage of disappearance, varies with commodity because some foods are subject to less waste than others.

Table 8.1: Per-Capita Consumption

	1984	1989	1994	1999	2003	2005	2010	2015	2020	% Change*
<i>All values in kilograms, except eggs (dozens), and beverages in litres</i>										
Beef	17.37	15.64	13.91	14.48	14.21	13.62	12.96	12.39	11.84	-14%
Pork	12.24	12.48	12.34	13.07	10.93	12.05	12.09	11.94	12.18	3%
Lamb	0.35	0.32	0.34	0.35	0.45	0.44	0.50	0.56	0.61	42%
Poultry	9.33	10.36	11.80	12.63	13.56	14.27	15.76	17.25	18.74	38%
Fish	6.27	7.05	5.90	7.15	6.88	7.41	8.04	8.73	9.39	34%
Fluid milk	73.96	71.24	67.12	64.85	63.06	61.77	58.74	57.50	54.12	-15%
Cheese	6.09	8.00	8.54	8.78	8.80	9.48	10.07	10.63	11.20	28%
Cream	3.27	3.61	3.94	4.70	5.89	5.87	6.86	7.84	8.81	60%
Ice cream	8.69	8.39	8.68	7.41	6.42	6.17	5.18	4.21	3.25	-52%
Eggs	14.16	12.70	12.06	12.66	12.97	13.04	13.49	12.82	13.59	5%

Fresh fruit	33.98	33.20	37.20	35.01	38.01	36.82	37.19	37.51	37.72	3%
Canned fruit	4.81	4.18	3.64	4.53	4.61	4.61	4.75	4.87	5.01	10%
Frozen fruit	1.10	1.48	1.58	1.73	1.77	1.81	2.00	2.19	2.38	39%
Dried fruit	1.26	1.38	1.18	1.24	1.41	1.38	1.43	1.48	1.53	13%
Fruit juice	21.07	20.20	23.05	22.84	24.29	23.70	23.78	23.77	23.73	-1%
Fresh vegetables	66.72	68.09	78.14	77.32	77.12	79.30	80.17	80.39	80.43	2%
Frozen vegetables	3.23	4.07	3.98	4.39	4.67	4.89	5.38	5.81	6.23	33%
Canned tomatoes	3.12	2.88	3.22	3.30	3.43	3.45	3.53	3.62	3.69	10%
Canned vegetables	11.81	11.29	11.87	11.62	11.39	11.88	12.13	12.31	12.49	6%
Vegetable juices	3.03	2.33	1.52	1.34	1.31	1.27	1.14	1.10	1.09	-16%
Cereal products	49.76	53.63	56.71	64.89	63.89	67.48	68.14	68.98	69.43	7%
Pulses and nuts	6.54	6.68	8.78	8.92	8.51	9.02	8.97	8.84	8.61	-1%
Sugars and syrups	30.98	27.90	31.88	29.00	35.70	33.26	36.14	38.82	41.38	22%
Margarine	4.52	4.23	3.28	3.93	3.53	3.60	3.58	3.56	3.59	-1%
Salad/cooking oils	3.05	4.35	4.70	8.83	9.72	10.78	13.10	15.34	17.60	88%
Total oils and fats	16.29	17.03	18.49	22.17	22.44	23.48	25.31	26.98	28.70	29%
Coffee	82.40	79.64	88.13	88.16	90.30	91.02	94.31	97.84	101.23	12%
Tea	59.11	42.53	49.37	60.68	80.56	72.20	79.62	88.26	97.18	40%
Soft drinks	65.41	84.30	96.89	103.92	98.87	102.26	105.22	106.33	106.77	7%
Alcoholic beverages	94.01	89.02	79.23	81.04	83.05	83.85	87.43	90.86	94.11	13%

** The base of the percentage change is the average of three years (2001, 2002 and 2003)*

Table 8.2: Per-Capita Disappearance

	1984	1989	1994	1999	2003	2005	2010	2015	2020	% Change*
<i>All values in kilograms, except eggs(dozens), and milk and beverages in litres</i>										
Beef	39.09	35.20	31.30	32.59	31.98	30.65	29.16	27.87	26.65	-14%
Pork	28.19	28.74	28.42	30.10	25.17	27.74	27.84	27.49	28.05	3%
Lamb	0.79	0.72	0.77	0.79	1.02	0.99	1.12	1.26	1.39	42%
Poultry	25.04	27.80	31.67	33.89	36.39	38.30	42.30	46.29	50.29	38%
Fish	8.69	9.77	8.17	9.90	9.53	10.26	11.14	12.09	13.01	34%
Fluid milk	100.06	96.38	90.80	87.73	85.31	83.57	79.47	77.79	73.21	-15%
Cheese	8.24	10.83	11.56	11.88	11.91	12.83	13.63	14.39	15.16	28%
Cream	4.41	4.87	5.32	6.35	7.95	7.93	9.26	10.59	11.89	60%
Ice cream	11.73	11.33	11.72	10.00	8.67	8.34	6.99	5.68	4.39	-52%
Eggs	17.06	15.30	14.53	15.26	15.63	15.71	16.25	15.45	16.38	5%
Fresh fruit	68.14	66.52	78.03	77.07	82.50	80.61	82.82	84.77	86.41	9%
Canned fruit	6.09	5.30	4.60	5.74	5.84	5.85	6.02	6.17	6.36	10%
Frozen fruit	1.39	1.88	2.00	2.19	2.24	2.29	2.52	2.77	3.01	39%
Dried fruit	1.42	1.56	1.33	1.40	1.59	1.56	1.61	1.67	1.73	13%
Fruit juice	26.71	25.60	29.22	28.95	30.80	30.05	30.14	30.13	30.07	-1%
Fresh vegetables	125.09	127.66	146.50	144.96	144.59	148.68	150.32	150.72	150.80	2%
Frozen vegetables	3.94	4.97	4.86	5.36	5.70	5.96	6.57	7.09	7.61	33%
Canned tomatoes	3.53	3.25	3.64	3.73	3.88	3.90	3.99	4.09	4.17	10%
Canned vegetables	13.30	12.72	13.37	13.09	12.83	13.38	13.66	13.87	14.07	6%
Vegetable juices	3.83	2.95	1.92	1.69	1.65	1.61	1.45	1.39	1.38	-16%
Cereal products	92.14	99.36	104.93	119.87	118.55	124.78	126.05	127.63	128.54	7%
Pulses and nuts	8.29	8.47	11.13	11.31	10.81	11.45	11.38	11.22	10.93	-1%
Sugars and syrups	55.44	49.92	57.03	51.88	63.87	59.50	64.65	69.44	74.02	22%
Margarine	5.97	5.59	4.33	5.19	4.66	4.75	4.72	4.70	4.74	-1%

Salad/cooking oils	4.33	6.17	6.67	12.53	13.79	15.29	18.58	21.77	24.97	88%
Total oils and fats	31.18	32.76	35.84	43.02	43.60	45.71	49.40	52.76	56.21	30%
Coffee	104.42	100.93	111.68	111.72	114.43	115.35	119.52	123.99	128.28	12%
Tea	74.91	53.90	62.57	76.89	102.09	91.50	100.89	111.85	123.15	40%
Soft drinks	82.89	106.83	122.78	131.70	125.29	129.59	133.34	134.75	135.30	7%
Alcoholic beverages	100.41	95.08	84.63	86.55	88.70	89.56	93.39	97.05	100.52	13%

** The base of the percentage change is the average of three years (2001, 2002 and 2003)*

8.2 CANADIAN POPULATION PROJECTIONS

To project aggregate disappearance, per-capita disappearance is simply multiplied by the projected population growth. The accuracy of the aggregate disappearance projections is therefore dependent on the accuracy of the population projections.

A special set of population growth projections were undertaken by Statistics Canada in February, 2005. The projections were benchmarked to the actual Canadian population in 2004. Three future scenarios were made, based on varying assumptions with respect to expected birth rates, mortality, and immigration patterns. The figure below provides an overview of these projections for Canada. Other projections were made at the provincial and territorial levels as well.

The more aggressive forecast of population growth for Canada anticipates population growing from 32 million in 2004, to almost 37 million by 2020, or by 16%. The least aggressive, or conservative projection has the Canadian population growing to 34.1 million or by or less than 7% by 2020.

The future average age of the population has been calculated, based on these three forecasts of the population. This result is shown in Figure 8.2.

8.3 AGGREGATE DISAPPEARANCE PROJECTIONS

The population projections provide the basis for estimating the total amount of food demand or disappearance. Table 8.3 provides estimates of total disappearance by commodity or product, in five year periods 2005 through to 2020, based on per-capita disappearance, expanded over the total Canadian population. These projections were based on the mid range population projections developed by Statistics Canada. Just seven items show projected declines in aggregate disappearance:

- * Ice cream, a decline of 52%, some of which may be offset by a switch to products like ice milk and frozen yogurt;
- * Beef, a decline of 14% ;
- * Vegetable juices, a decline of 16%;
- * Fruit juices, a decline of 1%;
- * Fluid milk, a decline of 15%;
- * Pulses and nuts, a decline of 1%; and
- * Margarine, a decline of 1%.

Figure 8.2: Alternative Canadian Population Projections

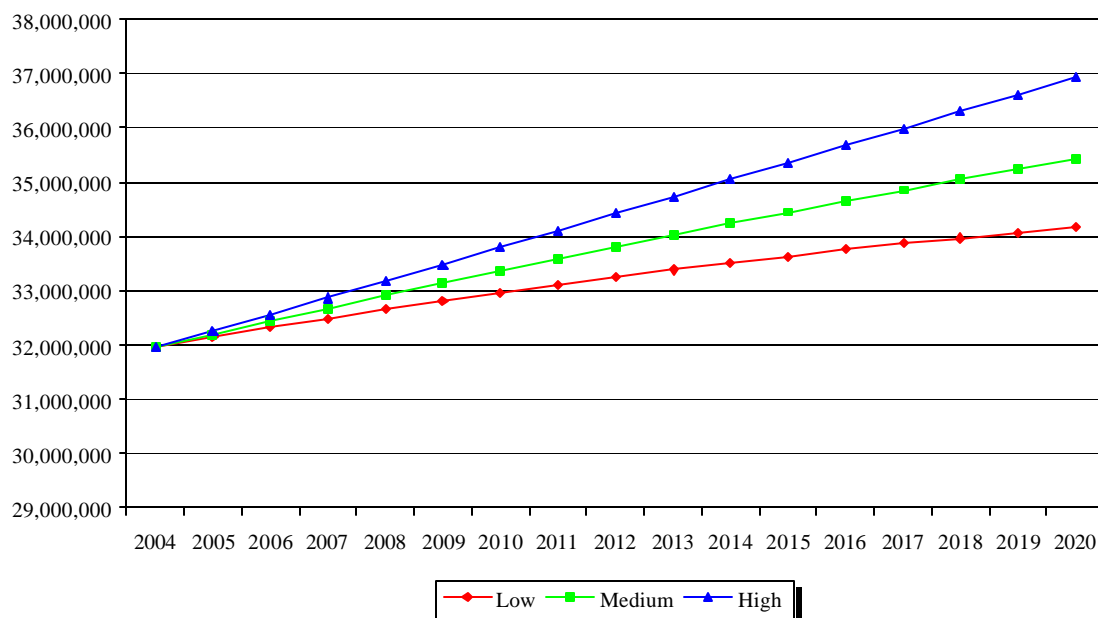


Table 8.3: Aggregate Disappearance of Various Food Products

	1984	1989	1994	1999	2003	2005	2010	2015	2020	% Change*
Beef	1,001,046	960,272	907,809	990,791	1,011,517	986,700	972,908	960,116	944,535	-3%
Pork	721,796	784,062	824,065	915,098	796,119	893,001	928,609	946,894	994,191	16%
Lamb	21,828	21,262	24,012	25,916	34,664	34,297	40,326	46,699	52,988	60%
Poultry	641,171	758,499	918,306	1,030,516	1,151,004	1,232,903	1,411,045	1,594,504	1,782,400	56%
Fish	222,472	266,420	236,995	301,120	301,431	330,378	371,612	416,436	461,053	51%
Fluid milk	2,562,198	2,629,316	2,633,183	2,667,380	2,698,328	2,690,189	2,650,988	2,679,644	2,594,662	-4%
Cheese	211,065	295,387	335,174	361,287	376,709	412,861	454,566	495,591	537,353	45%
Cream	113,045	132,958	154,246	192,913	251,503	255,241	309,037	364,636	421,473	81%
Ice cream	300,416	309,007	339,810	304,145	274,134	268,331	233,151	195,808	155,530	-46%
Eggs	436,970	417,538	421,453	463,854	494,372	505,846	542,222	532,328	580,320	18%
Fresh fruit	1,232,317	1,282,745	1,527,761	1,507,476	1,702,637	1,678,782	1,757,020	1,829,842	1,893,020	16%
Canned fruit	138,670	128,385	118,837	155,058	164,158	167,159	178,273	188,662	200,055	24%
Frozen fruit	31,670	45,396	51,513	59,136	62,943	65,596	74,843	84,845	94,975	58%
Dried fruit	36,385	42,455	38,587	42,514	50,291	50,111	53,743	57,495	61,182	28%
Fruit juice	607,525	620,518	752,634	781,907	865,072	859,184	893,203	921,899	946,725	12%
Fresh vegetables	3,203,296	3,482,792	4,248,423	4,407,497	4,573,335	4,786,237	5,014,447	5,191,612	5,344,275	16%
Frozen vegetables	100,956	135,527	140,872	162,911	180,289	192,010	219,082	244,142	269,675	50%
Canned tomatoes	90,282	88,786	105,516	113,376	122,593	125,434	133,193	140,932	147,759	24%
Canned vegetables	340,661	346,952	387,737	397,959	405,809	430,814	455,657	477,698	498,490	20%

Vegetable juices	87,068	71,330	49,462	45,717	46,496	45,933	42,830	42,518	43,361	-5%
Cereal products	1,735,746	1,993,044	2,240,159	2,687,465	2,752,731	2,959,194	3,096,298	3,236,452	3,351,713	21%
Pulses and nuts	188,728	205,371	286,924	305,621	303,329	327,183	337,099	343,123	343,758	12%
Sugars and syrups	1,061,100	1,018,081	1,236,535	1,179,321	1,510,317	1,432,045	1,612,548	1,788,690	1,961,639	38%
Margarine	152,878	152,423	125,630	157,818	147,471	153,063	157,524	161,773	168,013	12%
Salad/cooking oils	110,807	168,368	193,365	380,880	436,173	492,127	619,767	749,720	884,950	113%
Total oils and fats	581,480	647,637	747,419	939,590	989,376	1,053,697	1,177,149	1,295,653	1,417,863	46%
Coffee	2,375,290	2,445,816	2,876,912	3,017,312	3,215,157	3,298,387	3,541,616	3,793,637	4,038,274	27%
Tea	1,704,004	1,306,196	1,611,707	2,076,895	2,868,495	2,616,478	2,989,909	3,422,408	3,876,994	58%
Soft drinks	1,885,578	2,588,995	3,162,953	3,556,794	3,520,383	3,705,825	3,951,528	4,123,097	4,259,518	21%
Alcoholic beverages	2,487,959	2,509,921	2,374,500	2,546,407	2,714,775	2,789,490	3,014,334	3,234,547	3,446,789	28%
Quantities are in metric tonnes except for the following;										
Eggs, in 1000 dozens										
Milk, Cream and beverages are in 1000 litres										
<i>* The base of the percentage change is the average of three years (2001, 2002 and 2003)</i>										

9.0 FOOD ACROSS CANADA

Regional influences in Canada are as much about the availability of local foods as a reflection of the cultural roots and local economic conditions in the provinces.

Table 9.1 highlights some of these regional differences:

- * Average household spending on food climbs by about 30% from east to west;
- * As a percentage of total food expenditure, local restaurant spending is highest in Ontario and British Columbia, and lowest in Atlantic Canada;
- * Quebec consumers spend the least amount of their food dollar in fast food restaurants;
- * Those residing in western Canada, spend about \$1.00 out of every \$10.00 while travelling (overnight stays or longer); and
- * While more than two-thirds of weekly spending in local stores occurs in supermarkets, Quebec consumers spend more of their local retail food dollar in specialty food stores, while those residing on the prairies spend the least at these outlets.

Considering foods purchased at retail stores, Atlantic Canadians prepare more meat and potatoes at home, including cured meats. They consume less fresh fruit and vegetables and favour margarine over butter. Notably, Atlantic Canadians purchase less coffee for at-home consumption, perhaps because of the inclination to frequent coffee shops such as Tim Horton's in that region.

Of note, is that rates of overweight/obesity are highest in Atlantic Canada, perhaps related to a diet less dependent on fresh produce and more on meat. In a 2005 poll⁷⁶ on attitudes toward healthy foods, the biggest differences by region tended to be among those from the east coast. These residents agreed that they had difficulty making healthy food choices. Often because of hectic lifestyles, they found it difficult to make the "right" choices because there were so many things to consider when buying food

⁷⁶ "Canadians on Healthy Eating". Toronto: Ipsos-Reid, January 2005.

(e.g. they infrequently look for the absence of hydrogenated oils or trans-fats), that they were sceptical of manufacturers' claims that their products were healthier, and that they would like to eat healthier but don't want to give up their favourite foods. This group seems most resistant to change, but are the highest risk group in terms of weight and associated diet related diseases. Healthy food options geared to the east coast palate and consumer education on healthy food choices to improve trust and reduce confusion appear to be warranted.

Quebec consumers eat more meats like veal, dishes using grated cheese, and have a sweet tooth for fresh desserts, pies, cakes and pastries. They avoid low fat milk and dairy substitute products such as soy beverages, although this is a growing category. Quebec consumers also shy away from powdered flavourings or drink mixes. In spite of this apparent leaning toward a rich diet, they have one of the lower rates of overweight/obesity (according to their BMI) in the country. The poll on food attitudes confirmed that Quebec consumers actively look for foods (presumably other than dairy) with less fat, less sugar, lower in carbs, or more soy protein, compared to those in the other regions. At the same time, Quebec consumers don't dismiss nutritional labels as being quick and easy to read; they appear to be working at good food choices.

Looking ahead, Atlantic Canada and Quebec are projected to grow very slowly relative to the rest of the country, reflecting lower birth rates, lower immigration, and a higher median age in the population. This suggests less opportunity for penetration by ethnic foods and, and declining total food consumption with aging.

Ontario residents, because of the dominance of this highly populated province in Canada, tend to mirror national consumption patterns. Their attitudes, however, suggest less commitment to making healthy lifestyle changes and lower recognition of the challenges in doing so. They are not as actively seeking alternatives like soy protein. They are more trusting of manufacturers' claims that their products are healthier and they see that healthier food options cost about the same as regular foods, perhaps because

of a closer relationship with the packaged food manufacturing industry in that province.

Ontario residents are the most multicultural. By 2017 half of all Torontonians will be first generation

immigrants, creating considerable demand for ethnic foods and ingredients. Immigrant influences will also continue to be felt in Ottawa, Hamilton, Kitchener, and Windsor.

Table 9.1: 2001 Household Profile and Food Expenditure Patterns by Regions in Canada

	Canada	Atlantic	Quebec	Ontario	Prairies	BC
Household Profile (2001 Unless Otherwise stated)						
Population (1000's)	31,021	2,341	7,397	11,898	5,208	4,078
<i>Projected Population Growth 2001- 2020 (Medium growth Scenario)</i>	14%	4%	2%	20%	12%	29%
Percent immigrants in population (excluding non-permanent residents)	19%	3%	10%	27%	12%	26%
<i>Projected percentage of immigrants in population 2017 Province (Scenario B)</i>	22%	4%	12%	31%	14%	31%
Percent immigrants (excluding non-permanent residents) Top urban	NA	Halifax 7%	Montreal 19%	Toronto 44%	Calgary 21%	Vancouver 38%
<i>Projected percentage of immigrants 2017 Top urban (Scenario B)</i>	NA	Halifax 7%	Montreal 22%	Toronto 49%	Calgary 23%	Vancouver 45%
Median Age	37.6	38.6	38.8	37.2	35.7	38.4
<i>Median Age projected to 2020 (Medium growth Scenario)</i>	41.5	43.5	43.2	40.9	40.4	41.5
Average Household Size	2.6	2.6	2.4	2.7	2.6	2.5
Birth Rate/1000 in population	10.5	9.2	9.8	10.7	12.1	9.7
Female labour force participation (age 15+)	60%	56%	57%	61%	63%	59%
Percent Overweight/Obese ¹	48%	57%	45%	49%	52%	43%
Household Expenditures (% Unless Otherwise Stated)²						
Average weekly household expenditure	\$124	\$109	\$118	\$126	\$128	\$132
Percent total household expenditures on food	11	12	13	10	11	11
Percent Purchased in Local Restaurants³	24	21	23	26	24	26
Table Service	13	9	13	13	12	15
Fast Food	7	8	5	8	7	6
Other	4	4	4	4	4	4
Percent Purchased in Local Stores³	68	73	70	68	65	65
Supermarkets	56	62	56	56	57	53
Other stores	12	10	14	12	8	12
Percent Purchased on overnight trips⁴	8	7	8	7	11	10
¹ Aged 20-64 (excl pregnant women) who reported BMI >25 (adjusted for non response) 2000-01 ² Columns may not add to 100% due to rounding ³ Local includes day trips ⁴ Includes restaurant and store purchases on overnight or longer trips Source: Statistics Canada: Food Expenditures in Canada 2001, Census of Population 2001, Population Projections of Visible Minority Groups 2001-2017, Canadian Community Health Survey, 2000/01, Annual Demographic Statistics 2003, Population Projections for Canada, Provinces and Territories, 2001 – 2026 (Revised Feb. 2005)						

People on the Prairies eat more turkey and certain cuts of pork, but due to availability, eat less seafood and salt water fish, although salmon is gaining in popularity. Pasta products and mixes are a favourite. They buy more flavouring and drink mixes, but less of certain types of fresh vegetables, at retail stores. While still low relative to the rest of the country, tropical fruit consumption is growing in this region. Attitudes of prairie consumers are variable between Saskatchewan and Manitoba versus Alberta. Albertans seem more nutrition conscious, tending to feel that reading nutritional labels is a quick and easy thing to do and are least resistant to giving up taste or their favourite foods in favour of nutrition. Those in Saskatchewan and Manitoba appear to be price conscious. They believe that healthy options cost more, and consequently, less frequently looked for low fat, low sugar, or low carb alternatives.

Prairie consumers have the highest birth rate in the country, lowest median age, and highest participation of women in the workforce, suggesting a continuing strong push for convenience items and higher consumption overall. Vegetarianism and adoption of organic products may also be indicated by this younger population skew. Moderate population growth is projected in the prairies, as is attraction of immigrants.

Residents of British Columbia typify a trend toward healthier eating, with less meat dependency. Asian diets, along with higher rates of retail purchases of locally available salmon, fresh fruit, dairy product substitutes (soy beverages), nuts and dried fruits, berries, certain fresh vegetables and tea, typify the BC population. Some red meats, carbonated beverages and fresh desserts are purchased less frequently. Reflective of this diet, BC has the lowest rate of overweight/obesity in the country. Attitudes of BC residents suggest that they are more open to change and are comfortable in making healthy food choices, considering the array of factors to consider. For example, they more frequently look for products with no hydrogenated oils (trans-fat). In the years to come, BC will experience the fastest growth in population to 2020, with an increasingly multicultural flavour, especially in Vancouver.

High growth food categories are similar across regions with convenience foods, yogurt, dairy substitutes, cereal-based snack foods and non-alcoholic beverages other than soft drinks and fruit drinks showing growth in most regions. Please see

Appendix E for more detail on consumption and growth of individual food items by region.

APPENDICES

Appendix A: Median Age Projections, Canadian Population

Appendix B: Tomorrow's Consumer Generations - 2020

Appendix C: Food Trends By Meal Occasion

Appendix D: Statistical

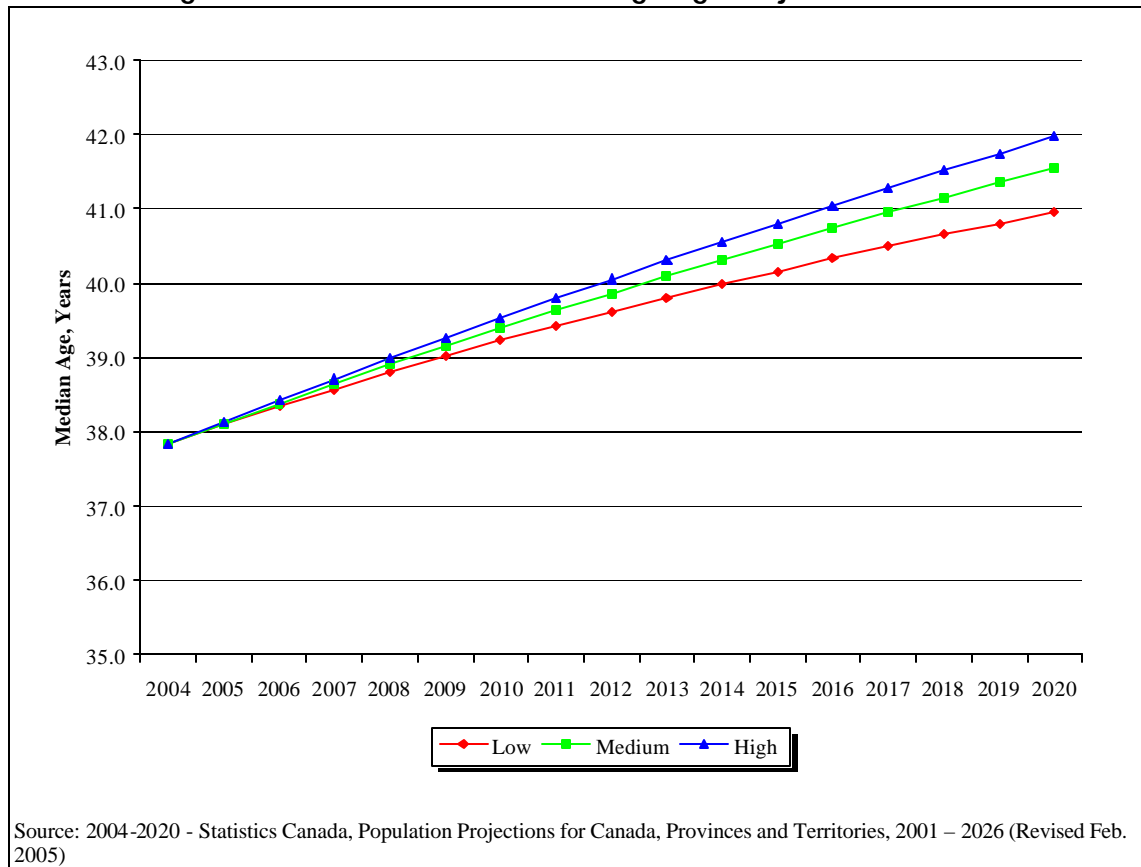
Appendix E: Food Consumption Patterns By Regions In
Canada

Bibliography

APPENDIX A: MEDIAN AGE PROJECTIONS, CANADIAN POPULATION

These revised population projections by Statistics Canada suggest the average and median age of the Canadian population will continue to increase to 2020. Under the aggressive population projection, the median age is expected to increase to 42, from under 38 today. Under the conservative projection, the median age is expected to increase to 41.

Figure A.1: Canadian Median Average Age Projections



APPENDIX B: TOMORROW'S CONSUMER GENERATIONS - 2020

Generation	Formative Influences	Consumer Characteristics	Food Drivers				
			Health and Nutrition	Convenience	Variety Seeking	Price	Brand
Quiet Generation Born prior to the end of WW II Seniors in 2020	Hard working – desire to better their immigrant parents or grandparents WASP, Francophone or East European influences Depression WW II 1950's idealism of the traditional family Little job mobility	Debt Adverse Penny Pinchers Conformity Avoid waste Frequent shoppers with time to shop Light eaters Respond to mass marketing The freezer was “the” appliance; supported suburban life, less frequent shopping and “make ahead and freeze your own convenience foods” Eating out is a special occasion	Health issues related to aging, particularly osteoporosis Nutrient dense foods in smaller quantities Easy to digest food Increasing importance of liquids, calcium, Vitamins D, and B-12	Smaller portion size but more traditional cooking, with semi-prepared ingredients Widows and widowers may opt for single serving prepared meals, as cooking and nutrition management becomes a chore and pantries are less well stocked with fresh items	Limited The number of taste buds decline with age, therefore more flavourful foods (but low salt) are appreciated	Sale shoppers, coupons	Trust and loyal to national brands Value brands with easy to read labels and easy to open, lighter weight packages
Baby-boomers Born 1947 to 1959 Empty Nesters Retired and semi-retired in 2020	Post war prosperity and optimism Challenge authority, idealistic Social change, women's movement, the pill and sexual revolution of the 1960's Dual income families/working women Affordable education Driven to succeed Culturally homogeneous “Me generation” Distrustful and cynical due to limited employment opportunities	High disposable income (Savings and transfer of wealth) Less waste conscious – demand for freshness justifies waste Weekly shoppers Desire to hold on to appearance of youth Accelerating health concerns with obesity and aging Enter the Microwave and Cuisinart “The Joy of Cooking” Casual entertaining Ability to spend on luxury items will depend on real estate and stock market performance Value service and atmosphere in retail/food service	Label reading, active information seeking Functional foods & food avoidance to manage weight and disease Gender specific marketing (e.g., foods and beverages to meet the unique nutritional needs of women.	“Sandwich” generation, caring for aging parents and adult children who won't leave home Couples may return to more traditional meal preparation at home with retirement	Some variety seeking, especially while travelling, eating out Somewhat resistant to trying new cuisines, flavouring or spices Opting for quality rather than quantity	Value= Quality Spending on Functional Foods and Nutraceuticals (FFN's)	Brand is economic status Brand is quality Premium private label brands promote store loyalty Nostalgia brands and “comfort foods”
Baby Boom Tail Enders Gen X⁷⁷ Born 1960-1966	(This cell is merged with the Baby-boomers cell above)	(This cell is merged with the Baby-boomers cell above)	(This cell is merged with the Baby-boomers cell above)	(This cell is merged with the Baby-boomers cell above)	(This cell is merged with the Baby-boomers cell above)	(This cell is merged with the Baby-boomers cell above)	(This cell is merged with the Baby-boomers cell above)

⁷⁷ Note: Many demographers and media reports refer to Gen X as the generation that followed the baby-boom. David K. Foot's definition from Boom Bust & Echo is used in this summary, which places Gen X at the tail end of the baby-boomers and labels the baby bust as a distinct generation.

Generation	Formative Influences	Consumer Characteristics	Food Drivers				
			Health and Nutrition	Convenience	Variety Seeking	Price	Brand
<p>The Baby Bust</p> <p>Born 1967-1979</p> <p>Parents of teens</p> <p>Lone parent families</p> <p>Singles</p> <p>Childless couples</p> <p>At career peak in 2020</p>	<p>“Canadian” or a visible minority</p> <p>Latch key kids, product of dual working parents or lone parent families</p> <p>Divorce, step families</p> <p>Oil crisis</p> <p>Hyperinflation in the early 1980’s</p> <p>Deficit financing by governments</p> <p>AIDS</p> <p>Media fragmentation</p> <p>Computer generation</p> <p>Improving job prospects, career change and job mobility</p> <p>Raised with Ronald Mcdonald - first real “fast food” generation</p>	<p>Delayed child bearing, fewer children</p> <p>Food choices made with children in mind – multiple meals to suit different family members</p> <p>Less commitment to traditional marriage</p> <p>More financial dependency on parents</p> <p>Acceptance of debt</p> <p>Polarization of wealth</p> <p>Polarization of the fit and obese</p> <p>Adoption of kitchen “toys”; juicers, cappuccino makers, bread makers which may not get used all that often</p> <p>High volume consumer households</p> <p>Focus on family values</p>	<p>Management of obesity and related diseases</p> <p>Seek a physical and emotional energy boost to manage stressful lives</p>	<p>Declining involvement with meal preparation</p> <p>Microwave and toaster-oven dependent</p> <p>Take out and prepared meal options</p>	<p>Moderate to high – experimental</p> <p>Pick up cooking ideas from food shows, writers</p>	<p>Somewhat cautious in spending but will justify indulgent spending on food, convenience, diet foods</p>	<p>Brand choice reflects attributes (e.g. healthier products, environmentally friendly), not just status. Private label with convenience, health benefits</p>

Generation	Formative Influences	Consumer Characteristics	Food Drivers				
			Health and Nutrition	Convenience	Variety Seeking	Price	Brand
<p>Echo Gen Y</p> <p>Born 1980-1994</p> <p>Singles and couples starting out</p> <p>Young families in 2020</p>	<p>As children, indulged, protected, vehicle dependent and “programmed” by their baby-boomer parents</p> <p>Eating out was normal as children – not a special treat</p> <p>Seek meaningful work and balance in work/life</p> <p>Culturally and lifestyle tolerant</p> <p>In demand in the labour force</p> <p>Work in knowledge based industries</p> <p>Social consciousness</p> <p>Media filtering</p> <p>Instant communication and the Internet</p> <p>Global influences – Free Trade Agreement</p> <p>Higher education costs</p>	<p>Immediate gratification, short attention spans</p> <p>Cynical</p> <p>Question authority; Demand respect from authority figures/employers and marketers</p> <p>Acceptance of “disposable” nature of consumer goods</p> <p>Design conscious</p> <p>Expect sophisticated, personalized marketing</p> <p>Influenced by peers</p> <p>Selective and faddish</p> <p>Respond to raw truth, humour and irony in advertising</p> <p>Careful selection of foods for babies and young children</p> <p>Adoption of high tech/energy efficient/fast cooking and storage appliances</p> <p>Sporadic shopping patterns, quick trips, and poorly stocked pantries; shop for the meal</p> <p>On line ordering of specialty products</p> <p>Eating out is the norm -social & replaces the bar experience</p>	<p>Recognize that one has to work at health and wellness (diet and exercise) - a lifetime commitment.</p> <p>Link natural, organic and vegetarian products with health</p> <p>Will seek out natural and functional foods to address weight and health issues</p> <p>Concerned with environmental/food allergens</p> <p>More savvy consumers who grew up knowing how to read labels</p>	<p>High incidence of “Dashboard Dining”, portable snacking, multiple smaller meals, skipped meals, vending machine use</p> <p>Limited exposure to “Mom’s cooking” and further decline in involvement with daily meal prep</p> <p>Cooking is warming “pick-up” or “assembly” of prepared components</p> <p>Convenience cooking linked to new counter-top grills, convection ovens, etc.</p>	<p>High with increasing interest in ethnic foods and veggie options, especially in moderately priced food service</p> <p>“Hobby” cooking – meal prep is a social or special event</p>	<p>Willing to spend more on exotics, imports and brands with additional attributes (organic or natural).</p> <p>Price competitiveness due to global trade will make more products affordable</p>	<p>Brand is an expression of individual-ism and lifestyle interests, not status.</p> <p>Event and personality endorsements</p> <p>Influenced by product placement in entertainment media</p> <p>Brand preference is faddish, trendy</p> <p>Brand extends to store selection (e.g. natural foods)</p> <p>Ethics brands</p> <p>Erosion of national brands</p> <p>Brand sceptics</p>
<p>Gen Z Millennium Kids</p> <p>Born 1995 or later</p> <p>Students and young graduates</p> <p>Striking out or living with parent(s) in 2020</p>	<p>Continuing globalization with economic development in third world countries</p> <p>Culturally diverse and tolerant</p> <p>More choice than ever</p> <p>Sensitized to threats/terrorism (9/11)</p> <p>Environmentally conscious; declining world resources/global warming- Kyoto Accord</p> <p>Mapping of human genome</p> <p>Healthy lifestyle, obesity awareness and prevention</p> <p>What’s next???</p>	<p>Increasingly sophisticated</p> <p>More of Gen Y characteristics</p> <p>Concerned with food and package waste</p> <p>And.....???</p>	<p>Health/risk avoidance and management</p> <p>Reliance on medical technology to solve health problems and manage weight</p> <p>And.....???</p>	<p>Continue Gen Y trend</p> <p>Seek healthier convenience foods and snacks</p> <p>And.....???</p>	<p>Continue Gen Y trend</p> <p>Designer, engineered foods, IF proven safe</p> <p>And.....??</p>	<p>To be determined by price competitiveness of food and other economic issues</p>	<p>Brands are trendy</p> <p>Brand identity pushed at an earlier age</p> <p>Brand identity crossover to several products/media etc</p> <p>And.....???</p>

APPENDIX C: FOOD TRENDS BY MEAL OCCASION

Table C.1: In Home Food Trends	
Breakfast Gains 1999-2003 Breakfast Losses	
Hot cereals Bagels Breakfast Sandwiches Pastry Chocolate Milk Pancakes Yogurt Cheese Sandwich Home Fries/Hash Browns Fruit	Milk Coffee Bacon Toast Crepes Waffles RTE Cereals Eggs Toaster Pastries Vegetables
Lunch Gains 1999-2003 Lunch Losses	
Cheese Sandwich Crackers Pasta excl M&C/Italian Soup Salads Sub Sandwiches Cookies Yogurt Chicken Wings/Nuggets Chocolate Milk	Bread excl sandwiches Milk Burgers Vegetables Coffee Ground beef excl Burgers Rice Cake Soft Drinks Oriental dishes
Main Dish Dinner 1999-2003 Main Dish Gains Dinner Losses	
Burgers Pizza Fish Beef steaks Mexican Macaroni and Cheese Sausages Pasta, excl M & C Chicken excl wings/nuggets Sub sandwiches	Vegetables Ground beef excl hamburger Salads French fries Oriental dishes Soup Potato Chips Buns/rolls Cheese Casseroles/one dish meals
Side Dish Dinner 1999-2003 Side Dish Gains Dinner Losses	
Vegetables Baked/Roasted potatoes Boiled Mashed potatoes Cheese Pasta, excl M & C/Italian Home Fries/hash browns French fries Crackers Buns/rolls Toast	Untoasted bread excl sandwiches Ground beef excl hamburger Eggs Chicken excl wings/nuggets Salads Biscuits/crumpets Soup Macaroni and cheese Rice Meatballs

Table C.2: Food Service Trends	
Source: NET Nutrition Survey /NPD Canada Group	
Menu Items 2001-2003 Menu Items Gains Losses	
Indian Espresso, cappuccino, latte and other coffees Soft serve ice cream sundaes Omelettes Bottled water Specialty teas Iced Tea French toast Stuffed Pizza/panzerotti Chicken strips	Pies Teas biscuits/scones Fried chicken sandwiches Onion rings Croissants Steak sandwiches Soft serve ice cream cones Cheesecake Tomato and vegetable juice Shakes, malts and floats
Source: CREST: NPD Foodservice Information Group and CFRA	

Table C.3: Snack Food Trends	
Snack Food 2000-2002 Snack Food Gains Losses	
Frozen Flavoured Ices Fresh Fruit Granola/Snack Bars Yogurt Cough drops/Lozenges RTE Popcorn Fruit Cups Fruit Snack Rolls Energy/Meal Replacement Bar Frozen Yogurt	Potato Chips Crackers Muffins Pudding/Cheesecake Cup Pretzels Donuts Bagels Chocolate Cookies Cheese stick/ball
Sample is individuals who eat snack foods at least once a month on average Source: Snack Track Canada: NPD Foodservice Information Group	

APPENDIX D: STATISTICAL

The appendix provides more detail on the statistical analysis approach used in the forecast of food consumption trends to 2020.

The overall approach used to forecast food consumption trends was that of regression analysis. Regression analysis is a statistical approach that can be used to describe and evaluate the relationships between a given or dependant variable (in this case per-capita food consumption) and one or more independent variable (for example income, demographic changes, prices, immigration trends, etc.) Once relationships between dependant and independent variable are statistically established (a regression model), this model can be used to forecast future values of the dependent variable (food consumption). The first stage of the process is to identify solid statistical relationships between the dependant and possible independent variable, then use the resulting regression model to predict future consumption trends.

Theoretical Background

The selection of the independent variables used in this report has been based on logical hypotheses from economics, social and demographic theory. The qualitative sections of this food trends report has provided an extensive assessment of the various trends within the economy and population which appear to be affecting and influencing consumers food consumption behaviour. The challenge of this approach is to bridge the gap between qualitative analysis and actual statistical and empirical evidence, and then use this to predict future food consumption trends.

The theoretical basis of the analysis and projections is based on the following functional relationships.

$$\text{Food Consumption} = f(\text{economic, social, and demographic trends})$$

Economic Variables

Traditional economic theory suggests that expenditure on food, and therefore consumption, is directly related to such factors as income (typically

per-capita disposable income) and the price of food. What is most critical and indicated in international research studies, is that in low income and developing countries, the expenditure elasticity is quite high. In a developing country, a major proportion of any increase in disposable income will be directed into food consumption. As the average income levels rise in a country, the proportion that goes toward food decreases, and with more going into the consumption of other consumer items like durable goods, vacations, etc.

The economic factors that are used in this analysis are described below.

- * **Real disposable income:** The level of disposable income per-capita, in real terms is hypothesized to be directly related to the level of consumption. As disposable income rises, there is more money available to spend on food. The higher the level of disposable income, it is postulated as well, that consumers consumption patterns will change.
- * **The price of food:** It is postulated that food consumption is impacted by its price, and other food prices either in real or nominal terms. As the general prices of food rise, consumption will likely drop, particularly for the higher cost food items.
- * **Price of substitutes:** In a general sense, if there is a close substitute for an individual food product, then as the price of that substitute rises, the demand for the individual food product will rise and vice versa.

Social and Demographic Factors

As the qualitative analysis has indicated, there are major social and demographic changes underway in Canada which are impacting on what foods people buy and consume. Four social and demographic variables are hypothesized to possibly impact on Canadian food consumption. These are listed and explained below.

- * **Median age of Canadian Population:** The median age of the Canadian population has

been continually increasing over the past 20 years and is expected to continue to increase. This shift implies that on average, Canadians are getting older. This in turn is anticipated to impact on the choices of food people are consuming in specific age groups, the quantities they consume, and their relative ability to pay for food between different age groups.

- * **General Population Growth:** The Canadian population is expected to continue to grow. Recent Statistics Canada population projection made for this study anticipate the nation's population to grow from 31.9 million in 2004, to 35.4 million, or 11% by 2020 using the medium growth scenario. Growth in the population impacts consumption.
- * **Immigration into Canada:** Canadian immigration, primarily from Asian countries has averaged well over 200,000 per year in recent years. This influx of people from different cultures, is postulated to have both a direct and indirect impact on food consumption patterns in Canada. Directly, these immigrants often have different food consumption preferences. Indirectly they influence non-immigrants consumption patterns through the transfer of new recipes, eating habits, and the establishment of ethnic restaurants.
- * **Canadian Population Health Characteristics:** A final social trend that is postulated to have some impact on understanding and predicting food consumption is related to an indicator of the general health of the population. One indicator of health is the well accepted Body Mass Index (BMI) indicator which has been used by health professionals since the early 1990. Based on surveys of the population, the proportion of the population which falls into the various weight categories are measured. Used in this analysis, the proportion of the population that is considered obese has been used. This ratio has been increasing over the past 15 years.

In summary, the analysis of historical food consumption patterns and projections of these trends to 2020 will be based on the statistical correlation and regression analysis using the following model:

Food Consumption = f (disposable income, own price, price of substitutes, median age of Canadian population, growth in the Canadian population,

the levels of immigration into Canada, and the index of the general population health based on the BMI)

Not all of these variables are significant for each of the individual food consumption categories. As possible, disposable income and the food products own price are included in the regression/projection model. They will be included based on their selection based on accepted economic theory of the relationships between consumption, income, and prices.

Regression Equations and Results

The table below summarizes the results of the regression models used to forecast food consumption for the different food items. These equations, with some of the basic statistical tests are included. These include the t values, F- Value and R Squared.

Food Consumption Regression Equations Projection Equations

Commodity	Intercept	Real PDI	Own Price Index	Substitute Price Index	Demographic Variable	R ²	F
Beef	12.58 (4.20)	0.0007 (3.11)	-0.02 (-1.17)	-0.06 X1 (-3.07)	-0.00001 X2 (-5.36)	0.94	61.58
Pork	Own historical trend.						
Lamb	-0.31 (-1.49)	0.00004 (2.50)	0.004 (1.62)	-0.004 X1 (-1.55)		0.58	7.37
Poultry	-1.43 (-0.40)	0.0003 (1.00)	0.08 (5.58)			0.87	56.21
Fish	-2.93 (-1.37)	0.001 (3.82)	-0.01 (-0.99)			0.59	11.99
Eggs	31.75 (5.53)	0.0002 (1.13)	0.08 (3.99)	0.13 X3 (1.73)	-1.36 X4 (-3.23)	0.67	7.73
Fluid Milk	84.43 (14.76)	0.002 (3.63)	-0.21 (-3.07)	-0.19 X3 (-3.67)		0.96	146.55
Cheese	3.26 (1.23)	-0.000004 (-0.02)	0.05 (5.05)			0.76	26.37
Cream	-5.09 (-3.23)	0.0003 (2.48)	0.04 (6.07)			0.91	89.43
Ice Cream	16.11 (6.30)	-0.0002 (-0.89)	-0.05 (-4.74)			0.83	40.56
Margarine	13.69 (8.21)	-0.0001 (-1.26)	0.01 (0.23)	0.04 X5 (1.11)	-0.0000005 X6 (-6.29)	0.84	19.89
Salad/ Cooking Oils	-14.64 (-2.80)	0.0002 (0.42)	0.17 (8.13)			0.90	80.81
Total Oils and Fats	7.92 (1.68)	-0.001 (-1.66)	0.20 (10.74)			0.92	103.49
Fresh Fruit	19.83 (3.91)	0.0001 (0.14)	-0.03 (-0.75)	-0.12 X7 (-1.61)	0.000001 X6 (4.74)	0.73	10.17
Canned Fruit	0.38 (0.24)	0.000005 (0.03)	0.05 (2.14)	0.002 X8 (0.20)	-0.00001 X2 (-3.11)	0.49	3.58
Frozen Fruit	-1.62 (-1.83)	0.0001 (1.14)	0.01 (1.37)			0.48	7.92

Appendix D

Commodity	Intercept	Real PDI	Own Price Index	Substitute Price Index	Demographic Variable	R ²	F
Dried Fruit	0.50 (1.24)	0.00003 (0.72)	0.003 (0.66)			0.22	2.36
Fruit Juice	23.32 (2.08)	-0.0003 (-0.28)	-0.17 (-1.74)	-0.07 X9 (-0.95)	0.77 X4 (3.11)	0.64	6.55
Fresh Vegetables	59.46 (4.00)	-0.003 (-2.65)	0.16 (1.65)	-0.33 X10 (-2.16)	0.000003 X6 (6.20)	0.83	18.34
Frozen Vegetables	-0.67 (-0.45)	-0.00003 (-0.24)	0.05 (6.35)			0.84	44.53
Canned Tomatoes	0.35 (0.43)	0.00004 (0.65)	-0.02 (-2.62)	-0.002 X11 (-0.30)	0.0000002 X6 (5.61)	0.77	12.88
Canned Vegetables	11.73 (5.65)	-0.0002 (-1.17)	-0.05 (-2.23)	0.03 X11 (2.43)	0.0000002 X6 (2.30)	0.58	5.08
Vegetable Juices	9.19 (5.77)	0.0003 (1.94)	-0.001 (-0.10)	-0.02 X9 (-2.28)	-0.27 X4 (-7.76)	0.89	29.76
Cereal Products	-74.72 (-3.29)	0.002 (3.13)	0.29 (3.48)	-0.74 X3 (-4.54)	0.00001 X6 (3.60)	0.97	109.48
Pulses and Nuts	-11.23 (-1.29)	-0.0003 (-1.02)	-0.03 (-0.75)	-0.08 X3 (-0.88)	0.000001 X6 (2.63)	0.78	13.44
Sugars and Syrups	15.75 (1.39)	-0.0003 (-0.43)	-0.05 (-1.96)	-0.19 X3 (-2.18)	3.83 X12 (4.28)	0.61	5.88
Coffee	16.46 (0.90)	0.004 (3.50)	0.06 (1.47)			0.46	7.11
Tea	-22.32 (-0.52)	-0.0005 (-0.14)	0.76 (3.88)			0.60	12.82
Soft Drinks	-95.26 (-3.00)	-0.01 (-2.53)	0.48 (2.37)	0.43 X13 (1.55)	6.13 X4 (8.73)	0.90	34.96
Alcoholic Beverages	39.30 (4.18)	0.003 (4.39)	-0.94 (-5.68)	0.75 X3 (3.21)		0.95	99.82

Definitions

X1 = Poultry CPI

X2 = Total Immigration

X3 = All Food CPI

X4 = Median Age

X5 = Fats and Oils CPI

X6 = Canadian Population

X7 = Preserved Fruit CPI

X8 = Fresh Fruit CPI

X9 = Soft Drinks CPI

X10= Preserved Vegetables CPI

X11= Fresh Vegetables CPI

X12= Health (Obesity %)

X13= Fruit Juice CPI

APPENDIX E: FOOD CONSUMPTION PATTERNS BY REGIONS IN CANADA

Foods Purchased in Stores ¹				
Atlantic	Quebec	Ontario	Prairies	BC
REGIONAL PREFERENCES				
Foods consumed at least 50% MORE in region relative to Canada in 2001²				
Condensed/evaporated milk Other canned meat preparations Other shellfish/marine products (e.g. lobster, crab) Frozen potatoes Bologna Beef chuck Pork shoulder Cured ham Margarine Canned pasta products Flour Fresh potatoes Pasta mixes Syrups and molasses Cured bacon	Veal Other meat preparations (excluding canned) Other pork (hocks) Honey Flounder and sole Canned vegetable juice (other than tomato) Grated cheese Fresh dessert pies, cakes, pastries	Infant formula	Pork belly cuts Gum Turkey Flavouring pwdrs/crystals Doughnuts Food drink powders Pasta mixes Fresh strawberries Canned pasta products	Fresh/froz salmon Pork leg cuts (excl shanks) Other fresh fruit (e.g. berries other than strawberries) Dairy product substitutes (e.g. soy milk) Shelled nuts other than peanuts Dried/preserved fruit other than raisins Flour Tea Fresh other leaf & stalk vegetables Cottage cheese Fresh cauliflower
REGIONAL DISLIKES				
Foods consumed at least 50% LESS in region relative to Canada in 2001²				
Fresh other leaf & stalk vegetables, other tropical fruit, squash, other root vegetables Roasted/ground coffee Fresh celery Non-alcoholic beverages (other than fruit drinks, carbonated) Fresh lettuce, mushrooms Other cheese Cucumbers Butter Other coffee Fresh/frozen salmon Cream Yogurt Fresh pears, grapes, broccoli, tomatoes, peppers, peaches, nectarines Concentrated orange juice	Fluid skim milk Canned pasta products Dairy product substitutes (e.g. soy) Turkey Flavouring pwdrs/crystals Dried/preserved fruit other than raisins Materials for frozen food preparations Cottage cheese Low fat milk (1%) Fresh yeast-raised sweet goods Tea Pasta mixes	Other meat preparations (excluding canned) Beef chuck (excl shank) Honey Other pork (hocks)	Other shellfish/marine products (e.g. lobster, crab) Other meat preparations (excluding canned) Fresh squash, peppers, corn Other sea fish (excl portions) Fresh broccoli, cucumbers Other tropical fruit Spices	Other meat preparations (excluding canned) Process cheese Fresh dessert pies, cakes, pastries Beef chuck (excl shank) Other canned meat/meat preparations Grated cheese Carbonated beverages Canned vegetable juice (other than tomato) Orange juice (not concentrated) Ketchup Beef rib cuts
Foods where too few households reported consumption in 2001 (any order)^{2,3}				
Other beef (shank) Pork belly, leg cuts, hocks Veal Other meat preparations Flounder and sole Honey Canned vegetable juice (other than tomato) Shrimp and prawns Lamb, mutton and other meat Other sea fish Fresh green/waxed beans, cauliflower, Grapefruit, other fresh fruit Unshelled nuts	Other beef (shank) Pork belly and leg cuts (excl hocks) Food drink powders Infant formula	Pork leg cuts (excl hocks)	Stewing and other beef (shank) Flounder and sole Pork leg, shoulder cuts and hocks Veal Fresh green/wax beans Lamb, mutton, other Infant formula	Other beef (shank) Flounder and sole Pork shoulder cuts, belly cuts Veal Bologna Pre-cooked frozen fish portions Infant formula

Cottage cheese				
Infant formula				

HIGH GROWTH FOODS				
Foods experiencing at least 10% average annual growth in consumption 1992-2001				
(In descending order of growth)				
Atlantic	Quebec	Ontario	Prairies	British Columbia
Pre-cooked food frozen preparations (other than dinners, desserts/bakery, meat/poultry pies) Yogurt Cereal-based snack foods Canned stews and hams Pre-cooked frozen dinners Fresh Peppers Non-alcoholic beverages other than carbonated and fruit drinks	Canned beans, other than baked, green or wax Pre-cooked food frozen preparations (other than dinners, desserts/bakery, meat/poultry pies) Pre-cooked frozen dinners Grated cheese Cereal-based snack foods Beef rib cuts Dairy product substitutes Other dairy products Yogurt	Fresh or frozen salmon (excl portions) Yogurt Other tropical fruit (e.g. pineapples, exotic fruit) Non-alcoholic beverages other than carbonated and fruit drinks Pre-cooked food frozen preparations (other than dinners, desserts/bakery, meat/poultry pies) Pre-cooked frozen dinners Beef rib cuts Other fresh fruit (e.g. berries other than strawberries) Cured meat other than bacon and ham Dairy product substitutes Canned/prepared mixed fruit Fruit juice other than apple, grapefruit, orange (excl concentrate) Cereal-based snack foods	Pre-cooked food frozen preparations (other than dinners, desserts/bakery, meat/poultry pies) Yogurt Pre-cooked frozen dinners Non-alcoholic beverages other than carbonated and fruit drinks Grated cheese All other food preparations Other fresh fruit (e.g. berries other than strawberries) Fresh or frozen salmon (excl portions) Other tropical fruit (e.g. pineapples, exotic fruit) Cereal-based snack foods Gum Other seed and gourd vegetables (e.g. squash) Dairy product substitutes	Other pre-cooked food preparations Pork leg cuts (excluding hocks) Dairy product substitutes Yogurt Fresh or frozen salmon (excl portions) Other seed and gourd vegetables (e.g. squash) Dried vegetables Other fresh fruit (e.g. berries other than strawberries) Fresh Green or wax beans Fresh spinach Non-alcoholic beverages other than carbonated and fruit drinks Pre-cooked frozen dinners Lemons and limes Canned puddings and custards Fruit juice other than apple, grapefruit, orange (excl concentrate) All other food preparations
<ol style="list-style-type: none"> 1. Local and day trips 2. Regional comparisons made on a per-capita basis. Ordered starting with greatest difference relative to Canada. Includes the top 151 products tracked (out of 194) in terms of \$ volume for all of Canada. 3. Excludes products too small to report in all regions: other meat offal, other poultry meat and offal, cod, freshwater fish, specialty milk products, frozen yogurt, fruit pie fillings, lard, infant cereal and biscuits, flavouring extracts and essences 				
Source: Statistics Canada Food Expenditures in Canada 1992, 1996, 2001				

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