

Due to an appreciating Canadian dollar, the effects of an outbreak of severe acute respiratory syndrome (SARS) in Toronto, fires in Alberta and British Columbia, and an incident of bovine spongiform encephalopathy (BSE), economic growth is expected to slow from 3.4% in 2002 to 2.0% in 2003, rebounding to 3.2% in 2004. Inflation was held to 2.2% in 2002 and is forecast at 2.2% and 1.9% respectively in 2003 and 2004. Retail food prices increased by an estimated 2.6% in 2002, with increases of 1.7% to 2.2% expected for 2003 and 2004.

Agri-food exports, which were otherwise set to make a modest recovery, have been impaired due to appreciation of the Canadian dollar relative to the U.S. dollar and export bans arising from the BSE incident. While the SARS outbreak in metropolitan Toronto was contained by authorities, it nevertheless had sizable impacts on the tourism, restaurant and food service industries. With the exception of BSE-related complications, complementarities in production and processing are increasing bilateral trade with the United States. But prospective country-of-origin labelling regulations, bio-terrorism precautions, and trade litigation complicate bilateral trade.

Macroeconomic Situation and Outlook²

Canada's economy grew by 3.4% in 2002. Due to the sluggish U.S. economy, an appreciating Canadian dollar, the effects of the SARS outbreak, economic growth is expected to slow to 2.0% in 2003, rebounding to 3.4% in 2004. Inflation was held to 2.2% in 2002, and is now forecast at around 2.2% and 1.9% respectively in 2003 and 2004.

Food Prices and Consumption³

The CPI for food from stores increased by 2.6% in 2002. In 2003 and 2004, the CPI for food will increase by between 1.7% and 2.2%. Fresh fruit and vegetable prices will increase by 3% to 4% in 2003, followed by cereals and bakery products and edible oils. As a result of trade bans, beef that otherwise might have been exported has found its way to the domestic market, placing downward pressure on domestic beef prices. This, in turn, has placed some slight downward pressure on retail pork and poultry prices. Eggs and dairy product prices will be static at best. Prices for food services and restaurant meals increased 3% in 2002, but subdued demand for restaurant meals and food services means that menu prices will remain unchanged in 2003.

Food Processing and Distribution

After stellar year-on-year growth of 6.2% in 2001, food processing/manufacturing sales were solid but not stellar in 2002, with sales rising around 1.6% to an estimated \$Cdn28 billion. This may be a reflection of Canada's relatively favourable business environment.⁴

Earlier this year, food processing and manufacturing sales were expected to increase 3% to 4% in 2003, topping \$Cdn69 billion. With the confluence of adverse events hitting the Canadian economy and the sector, it now seems likely that food processing and manufacturing sales will be static in 2003.

The Canadian retail grocery industry increased its sales by 4.9% in 2002 to \$Cdn61.7 billion. An increase of 4.9% is anticipated for 2003, followed by modest gains of 3.5% to 4% in 2004. Chain supermarkets and major banner convenience stores increased sales by around 5.6% to \$Cdn39.56 billion in 2002, increasing market share slightly. Sales by voluntary group stores and franchised independents grew by 3.8% to \$Cdn25.19 billion.

Unaffiliated grocery stores and convenience stores continue to struggle in the face of competition from the larger chains. In Atlantic Canada, chains' share of sales leaped from 64.5% to 76.4%, largely at the expense of unaffiliated stores. Loblaws increased its presence in Quebec, increasing its market share from 33.8% to 35.8%. Ontario continued to be the major battleground for market share. Loblaws continues to open new stores under a variety of formats, Sobey's has restructured its organization, and A&P's Food Basics enjoyed strong sales growth. Collectively, these chains increased their market share in Ontario from 61.4% to 64%.⁵ In spite of continued consolidation and concentration, the Canadian grocery retail industry nevertheless appears to be extremely competitive and efficient; a recent survey indicated that an equivalent basket of groceries costs 25% to 30% less in Canada than in the United States (Menzie's 2002).⁶

The Canadian Restaurant and Food Services Association reports that commercial food service sales rose by 2.9% in 2002. Higher growth was expected for 2003, but now it appears that sales will decline by 5% or more as a result of SARS-related downturns in restaurant patronage in the greater Toronto and Vancouver metropolitan areas. The outlook is brighter for 2004, with growth exceeding 5% anticipated. Full-service restaurants and caterers will continue making gains relative to limited-service restaurants.

Agricultural Income, Production, and Trade

FARM INCOME. Canada's 2002 realized net income (RNI) for the farm sector in aggregate declined from 2001 levels but remained higher than the 1997-2001 average. In 2003, Canadian RNI is expected to further decline, mainly due to disruptions in the beef market, lower crop prices, higher expenses, and lower program payments. As the majority of the farm commodities produced in Canada are traded in international markets, farm cash receipts are sensitive to trade disruptions and changes in exchange rates. From the beginning of January until 31 July 2003, the Canadian dollar has climbed in value from US\$0.64 to \$0.71. Based on improvements in macroeconomic performance, the Canadian dollar is expected to exceed US\$0.75 by year's end. This appreciation in the Canadian dollar, with other variables

held constant, tends to reduce commodity prices by 9% to 15% in Canadian dollar terms.⁷

PRODUCTION AND TRADE PROSPECTS. The Statistics Canada (STC) 2003 seeding intentions survey indicates that the areas seeded to winter wheat, canola, flaxseed, and soybeans may increase in western Canada, while the areas seeded to spring wheat, durum, coarse grains, pulses, and special crops are likely to decrease. In eastern Canada, the increase in the area seeded to winter wheat more than offsets the decrease in the area seeded to soybeans and coarse grains.

Soil moisture reserves in Alberta and the western Saskatchewan have improved somewhat over those of a year ago. However, many parts of eastern Saskatchewan, Manitoba and British Columbia continue to experience dry conditions. Assuming near-normal yields and abandonment rates, total production of grains and oilseeds in Canada is forecast to increase to 58 million tonnes (Mt) from 43 Mt in 2002-03, with the increase mostly coming from western Canada due to improvements in moisture conditions on the prairies. Supplies are forecast to increase considerably as higher production more than offsets the low carry-in stocks. Total exports are forecast to increase to 24 Mt from 15 Mt expected for 2002-03.

Areas seeded to pulse and special crops for 2003-04 in Canada is forecast to decrease by 7%, as a higher seeded area for mustard seed and sunflower seed is more than offset by a lower area for lentils, dry beans, chick peas, canary seed, and buckwheat, with dry pea area remaining.⁸ Assuming a return to normal precipitation patterns, yields are forecast to be slightly below trend but significantly higher than in 2002-03. It has been assumed that abandonment will return to normal, so actual harvested area for most crops is expected to increase from 2002-03.

For 2003-04, total pulse and special crops production is forecast to increase by about 35%, compared to 2002-03, to 3.75 million tonnes (Mt). Total supply is expected to increase by only 25% because of lower carry-in stocks. Total exports and domestic use are forecast to increase due to the higher supply and strong demand, resulting in moderately higher carry-over stocks.

Pork exports continue to increase. Increased exports have been driven by higher production in central and western Canada (particularly Manitoba) as greater processing capacity has meant more hogs are processed in Canada and fewer live hogs are exported.

A single incident of bovine spongiform encephalopathy (BSE) in Alberta resulted in the border being effectively closed to beef, cattle, and ruminant trade from 20 May to 8 August 2003; the BSE case prompted a number of countries—including the United States, Australia, Mexico, New Zealand, Taiwan, South Korea, Russia, Singapore, Indonesia and Japan—to temporarily close their borders to imports of cattle, beef, and related products from Canada.

There have only been two cases of BSE ever diagnosed in Canada. The first case was found in 1993 in a beef cow that had been imported from Britain in 1987. The animal carcass and the herd it came from were destroyed, and additional measures were taken immediately

by the federal government to deal with any risk that Canadian cattle might have been affected. On 20 May 2003, a second case of one beef cow was reported as part of the Canadian Food Inspection Agency's (CFIA) targeted surveillance program. The cow was not intended for human consumption and was condemned at slaughter. Immediate disease control measures were put in place, including depopulation of the affected herd once necessary samples were obtained for the purposes of investigation and analysis.

No further incidents have been identified in the face of an exhaustive tracking and tracing effort. But the precise cause of the incident has not yet been determined. While the BSE incident appears to be isolated, Health Canada, the CFIA, and Agriculture and Agri-Food Canada (together with industry and provincial partners) have taken no chances and have undertaken stringent safeguards, particularly with respect to "Specified Risk Materials", to protect consumers at home and abroad.⁹ On 8 August 2003, the U.S. recognized the measures taken and announced the partial opening of the border to game animals and specified cuts. Expectations are that live animal trade will resume in time, once specified precautions are confirmed. It is unlikely, however, that trade will ever be as unfettered as it was before the incident.

In total, Canada's agri-food exports fell 3% in 2002, while agri-food imports increased 8%. Agri-food exports to NAFTA countries increased by 4% in 2002, while imports grew 8%. Agri-food exports to non-NAFTA PECC fell 18%, while imports grew by 4.0%. Exports to PECC were 87% of agri-food exports, while imports from PECC accounted for 77% of agri-food imports. In 2002, the value of Canada's exports of bulk commodities fell by 19%, while imports grew by 6%. This was largely due to shortfalls in production arising from extended drought in major growing regions. Intermediate product exports fell by 4%, while imports rose 7%. Higher value, consumer-oriented food product exports rose by 5%, while imports rose 8%.

Bulk and intermediate product exports should increase in the short term as supply-side conditions improve, particularly as rainfall and soil moisture levels recover. In the medium term, bulk exports will continue to decline in importance while increases are expected for consumer-oriented products. Complementarities in production and processing continue to increase bilateral trade with the United States. But new country-of-origin labelling regulations, bio-terrorism precautions, and trade litigation south of the border complicate trade in wheat, coarse grains, oilseeds, and red meats, in particular.

Food and Agricultural Policy

Together, the Government of Canada, provincial and territorial governments, and the agri-food industry are working to develop a new agricultural policy architecture to contribute to the sector's growth and profitability in the 21st century. In June 2002, the Government of Canada and the provinces signed an agreement that represents a comprehensive, long-term commitment to sectoral profitability. This agreement includes a comprehensive action plan covering five areas: (a) food safety and quality, (b) the environment, (c) science and innova-

tion, (d) business risk management, and (e) renewal.

This new Agricultural Policy Framework (APF) includes an international component to help industry maximize commercial opportunities at home and abroad, resulting in increased profitability, diversification, and value-added activity. Moreover, Canada's action plan is focussed on outcomes, with specific targets for results in each activity area, and a commitment by governments to report on progress. The APF and programs agreed to under it will replace other policies over time. Some \$Cdn 5.2 billion in federal funding has been set aside for the APF over the next 5 years.

SAFETY NETS AND BUSINESS RISK MANAGEMENT INITIATIVES. The risks to profitability faced by farmers today are increasingly complex and broad in scope. Traditional risks from weather, pests, disease, and global market fluctuations remain important, but have been joined by new risks, such as the potential loss of both consumer confidence and markets from food safety or environmental concerns.

A significant overhaul of Canadian agricultural safety nets is now underway, placing greater emphasis on an integrated "Whole Farm" approach and encouraging market-oriented, proactive business risk management. The Canadian Farm Income Program (CFIP) and the Canadian Rural Partnership initiative are being wound down while new comprehensive features will be incorporated into the design of Crop Insurance and Net Income Stabilization Accounts (NISA).

Because of the drought in western Canada, record payments were made under Crop Insurance. Estimated indemnities for the 2002 crop year were \$Cdn 2.08 billion, up from \$Cdn 970 million in 2001. As a result, 2002 crop insurance indemnities surpassed government contributions to NISA. CFIP money paid to farmers for the 2002 stabilization year is \$Cdn 505 million.

The Spring Credit Advance Program (*SCAP*) was renewed for the 2002 crop year and extended to horticultural crops, maple syrup, and honey producers to help them deal with drought and other business challenges. *SCAP* provided interest-free loans to assist producers in planting their crops. The limit for these loans remains \$Cdn 50,000 with a total limit of \$Cdn 700 million.

The federal dairy subsidy was phased out in February 2002. Nevertheless, the dairy sector continues to be Canada's most-supported agricultural sector, accounting for one-third of total producer support and almost two-thirds of market price support.

The National BSE Recovery Program is a short-term national program designed to compensate producers for the adverse impact that BSE and related border closures have had on the cattle industry. Producers who sell ruminants for slaughter are entitled to compensation on a sliding scale equal to a base price less a weekly market price. Initial estimates put the program's costs at about \$500 million, but costs may be higher depending on the length and degree of trade bans.

FOOD SAFETY AND QUALITY ASSURANCE SYSTEMS. To ensure the health and well-being of consumers and citizens and maintain markets, the Canadian industry has been developing and implementing

systems that deliver products within precise food safety and quality specifications. The APF aims to build on past efforts and help the entire sector take steps to solidify Canada's reputation as a producer of safe, high-quality food. Both the industry and government recognize that such a reputation can be leveraged for greater profitability in the sector, particularly as both domestic and international consumers have increased their expectations and demands regarding the safety and quality of the food they eat.

Industry and governments are exploring integrated systems for food safety, quality and product integrity, and progressive environmental husbandry. Industry and governments are working together towards a set of common goals, including to (a) protect human health by reducing exposure to food-borne hazards, (b) increase confidence in the safety and quality of Canadian foods at home and abroad, (c) improve the ability to identify and respond to food safety issues and concerns, (d) increase the ability to meet or exceed market requirements for food safety and quality, (e) support greater harmonization of regulatory systems to improve market access, and (f) provide value-added opportunities through food safety, quality, and product integrity systems.

One component of this new approach is the Canadian Food Safety Adaptation Program (*CFSAP*). The *CFSAP* shares with the food industry the costs of activities that enable national associations or groups involved directly or indirectly in the production, marketing, distribution, and preparation of food to develop risk management strategies, tools, and systems to enhance food safety from farm gate to the plate. Covering the pitchfork to the gate is the Canadian On-Farm Food Safety Program (*COFFSP*). *COFFSP* is a partnership between the federal government and industry that encourages primary product associations to develop the strategies and tools to educate producers and initiate on-farm food safety initiatives along HACCP principles. About \$Cdn 11 million will be available over 3 years for the 2 programs.

SCIENCE AND INNOVATION. A key priority of Canadian policy is to improve the ongoing competitiveness of the Canadian Agri-Food sector through the development and transfer of innovative technology. To support this, Agriculture and Agri-Food Canada (AAFC) delivers its mandate through 19 Research Centres of Excellence with a 2001/02 operating budget of \$252 million. The Matching Investment Initiative (MII) further enhances the AAFC Research Branch's efforts by encouraging government-industry collaboration. Industry money is matched with the government's to do shorter term research projects to achieve both public sector and private sector objectives. Since 1995, it has leveraged private funding totaling over \$Cdn 150 million.

ENVIRONMENT. Governments and industry have committed to work together towards a set of common goals for improving environmental performance on farms. Specific areas where progress towards these goals could be demonstrated involve water, soil, air, and biodiversity. For water, the goal is to reduce agricultural risks to the health of water resources, and the key priorities are nutrients, pathogens, and pesticides. For soil, agricultural risks to the health of soils are being reduced,

with erosion and soil organic matter as key priorities. Reducing risks to the health of *air* and the atmosphere is the primary goal for air quality, and the priorities are particulate emissions, odours, and greenhouse gas emissions. For *biodiversity*, the goal is to ensure compatibility between biodiversity and agriculture, with a focus on wildlife habitat, species at risk, and economic damage to agriculture from wildlife.

RENEWAL. Ministers of Agriculture have committed to work together and with industry towards a set of common goals. These goals include: (a) enabling beginning farmers to acquire the skills and expertise to manage their businesses and adapt to evolving consumer preferences and new scientific advances, (b) engaging farmers in the continuous upgrading of the skills needed to farm in an evolving sector, (c) providing farmers with the management skills they need to make their farms as profitable as possible, and (d) providing farmers with access to a wide range of choices to enhance their future quality of life.

TRADE POLICY. Canada hopes to capitalize on the new Agricultural Policy Framework's integrated policies and enhanced governance mechanisms, leveraging domestic performance to expand international market opportunities. While engaging in domestic policy reforms, Canada is concurrently implementing a coordinated international strategy to move forward with several different dimensions, including improving global market access opportunities, managing technical trade issues, and engaging the developing world through technical assistance aimed at improving the ability of developing countries to participate more fully in the global trading system. Canada remains a proponent in favour of reducing trade-distorting domestic support and eliminating export subsidies. This is reflected in ongoing changes to domestic policies and regulations as well as border measures. Canada has also expressed concern regarding the increased global use of technical measures to impede trade.

POLICY SUMMARY. While Canada's progress is commendable, improvements can still be made. Support has been unequal across sectors, regions, and farm sizes, and targeting could be improved. Moreover, emergency income payments were granted once again in 2002, and this could conceivably raise expectations of ongoing *ad hoc* support, thus distorting production and marketing signals. Nevertheless, Canada's policy and regulatory approach continues to show an increasing market orientation, with care taken to minimize distortions to production and trade. Canada has been moving away from commodity-specific support and towards a more integrated, less distorting, "whole farm" business risk management approach. Canada's performance should improve further as more integrated and comprehensive policy and programming under the new APF is implemented. Current farm safety nets have been recently reviewed, and the new framework offers the opportunity to further improve market orientation through improved business risk management, moving away from crisis management.

Demographics and their impacts on Canada's Economy and Agri-Food Sector

Canada is a multi-ethnic society of 32 million people, built by successive waves of immigrants. Canada's population is well educated, with over one-third of adult Canadians possessing a post secondary degree. Average household income is approaching \$Cdn 70,000 (~ \$US 45,000). Around 17% of the population is over 60 and this percentage is growing.

In Canada there is a saying "If the United States sneezes, Canada catches a cold". This is partly a reflection of the close proximity of the two countries, the myriad of economic linkages between them, and the relative size of their two economies. However, demographic differences also play a role. Canada has the "loudest" post World War II "Baby Boom" in the industrialized world. This is partly a reflection of differences in when and how different countries were involved in the war and differences in their post-war immigration and social policies.

At its peak in 1957, the U.S. boom hit 3.7 children per family, nearly half a baby fewer than the 4.1 children Canadian women were producing at the Canadian boom's peak. The United States also joined the war later and ended it earlier because a larger portion of their war effort was in the Pacific, where the war wound down sooner. Australia's and New Zealand's boom did not reach the same amplitude, with "only" 3 babies per woman. Because Canada's boom is "louder", demographically-driven market developments may be more readily observable in Canada than in other affluent PECC economies. The aging of the Baby Boom generation will have important impacts on dependency ratios, savings, investment, production and consumption patterns.

By the year 2020, Canada's population will reach some 35 to 36 million people. Ethnic diversity will continue to increase as a result of intermarriage and immigration, particularly in large urban centres; "visible minority" and multi-racial households will make up the majority of households in two decades time. Asian households are the fastest growing group, particularly Chinese.

By 2020, 38% of adult Canadians will hold a post secondary degree. But population aging may pose challenges as 26% of the population will be over 60, and fully one-third over 55. Demographers and economic analysts suggest that this aging will result in lower levels of savings and investment and could contribute to declining productivity levels and less innovation.

Demographics and Consumption Patterns

GENERATIONS. Significant differences in consumption patterns have been observed for different generations of Canadians. Four major demographic cohorts are now driving consumption patterns in Canada's agri-food market. These cohorts are often referred to as Generation Y, Generation X, Baby Boomers, and Matures.

Canadians that are currently 15-27 years of age (*Generation Y*) are just entering the workforce. They are willing to try new things and not

apprehensive about technology. They enjoy eating out and also are great patrons of “take-out” dining. Their cooking skills are not well-developed and they prefer “modular” cooking with prepared components to cooking “from scratch”.

Generation X Canadians (28-37 years of age) are now busy balancing careers and young families. Their incomes are rising, but they are faced with time-money trade-offs where convenience is critical. While family dining is of importance, most have only modest cooking skill and cooking “from scratch” is relatively rare. Demands on their time and a diversity of competing interests lead them to “outsource low-value tasks”. Unless viewed as a form of entertainment or enjoyment, such tasks may well include food preparation.

Baby Boomers are now 38-57 years of age. They are now coming into more time and money as their children have grown more independent and they themselves have reached mid-career. This allows them more opportunities to enjoy themselves, and the financial means to do so. *Baby Boomers* are increasingly aware of the need to eat healthy foods. They may be the last generation with significant cooking skills, unless trends within succeeding generations change. While they enjoy time spent in the kitchen, they also relish opportunities for dining out.

“Mature” Canadians are 58-72 years of age. They are traditional in their grocery shopping habits. They focus on value, prepare most of their own meals, and eat healthy foods. They are adjusting from a family-centred life (and shopping patterns) to that of an “empty nest” household where the children have left home and are now living independently.

These generational differences in eating habits and preferences are having an effect on overall consumption levels. Each successive generation spends more on food away from home and convenience foods than the one prior to it. Age affects food consumption because caloric and nutritional needs change as people age; as the population in general has aged, less meat, dairy products, fats, processed potatoes and other starchy foods are being consumed. Concomitantly, consumption of fish, fruits, vegetables, eggs and functional foods has been on the increase.

Preferences and choices also change with family composition, income and experience, all of which are related to age. Likewise, demand for institutional support and services for aging consumers has been on the increase. In general, an aging population does not require large portions and will prefer “quality” over “quantity”. Likewise, an aging Canadian population struggling with “Middle Age Spread” (especially the *Baby Boomers*) does appear to be reducing the proportion of fat in its diet, although the average is still above recommended levels.

FAMILY CONFIGURATION. The effects of smaller family sizes, higher female participation in the workforce, and fewer children are also showing up in consumption patterns. Among dairy products, relatively less whole milk, butter and cheese is being consumed while lower fat products like yogurt have enjoyed a boost. Lower levels of fat and oil, meat and other livestock products are being consumed, while the consumption of fruits and vegetables, and whole grain products has surged. With many dual-income families, there is a greater emphasis

on nutritional but convenient foods and food services. Package and serving sizes have also evolved to reflect declining family sizes and changing family configurations.

ETHNIC INFLUENCES. Immigration and ethnic diversity have also changed the nature of Canadian food consumption and food preparation, with ethnic Asian, Lebanese and “Tex-Mex” cuisine among the more noteworthy recent influences - expanding upon earlier European traditions. As a result of the evolution of culinary tastes, rice, fish, pork, poultry, lentil and pulse consumption have been increasing. Both the diversity and quantity of fruits and vegetables have increased. In general, these ethnic influences imply that fewer potatoes, fewer dairy products and less beef will be consumed. Ethnic Chinese, Indian, Thai, Cajun and Mexican preparations and condiments are sufficiently mainstream to feature in most supermarkets.

Demographics and Canada's Agri-Food Value Chain

RURAL POPULATION. Between 1996 and 2001, Canada's rural population declined in all but one province. This trend will continue for the foreseeable future. For the most part, this reflects the migration of young people away from rural areas.

FARM NUMBERS. Farm numbers have declined steadily and the population on farms has declined commensurately. Concomitantly, farm size has been increasing. Since 1996, dairy farms have shown the largest proportional and absolute decline in numbers relative to other farm types.

FARMER NUMBERS. While farmer numbers are declining in general, the decline in younger farmers is most dramatic; young farmer operators now make up less than 12% of farmers, down from 16% in 1996. Young workers represent nearly 20% of all self-employed workers, compared with less than 12% of farmers. For the oldest group, the relative proportions are 21% for self employed workers and almost 35% for farmers.

FARM HOUSEHOLD INCOMES. Household income on small farms fall just below the Canadian average, largely due to off-farm income. Larger farms' household incomes exceed the average. The shortfall from the Canadian average income is greatest for mid-sized farms. Overall, the incidence of low income farm households is around the same as for all Canadian households.

RECENT IMMIGRANTS. Many recent immigrants find their way into various parts of Canada's agri-food industries, performing a whole range of functions for a whole range of remuneration. The more skilled, the more industrious, or those with greater acumen may facilitate trade between Canada and their country of origin. Many small scale ethnic food processing companies have been established by recent immigrants. Others may find ready employment in low pay, low skill jobs in fast

food outlets. Still others may either establish or gain employment in restaurants serving the cuisine of their country of origin. Through their collective efforts and acumen, these immigrants have added considerably to the diversity of Canada's cuisine and agri-food system.

MIGRANT WORKERS. Canada admits seasonal farm workers, mostly from Mexico, the Caribbean, and South Asia. Over 60% of the seasonal migrant workers on Canadian farms were returnees who had worked in Canada before. Most migrant workers work in the horticultural industry.

ANTICIPATING FUTURE LABOUR AND HUMAN CAPITAL REQUIREMENTS. A skilled agri-food workforce will be required to achieve the policy goals articulated in Canada's Agricultural Policy Framework. Likewise, a skilled workforce will be called upon to meet growing consumer demands for quality assurance and product integrity systems. Skills that may be needed include: HACCP technicians, veterinarians, epidemiologists, environmental biologists, geneticists, biochemists, crop scientists, risk management specialists, and many other professionals.

The labour market sends signals only once a shortage of skills is in evidence. But most of the professions mentioned require that an individual has at least a bachelor's degree and most often a graduate degree, meaning that it will take roughly 4-6 years before a properly trained person is available. This poses a challenge. Governments and industry need to act in anticipatory fashion now if they want an appropriately trained workforce in place 4-6 years from now.

¹ Research and Analysis Directorate, Agriculture and Agri-Food Canada (AAFC). Views expressed are the authors and do not reflect those of AAFC. We would like to thank, without implicating, Andrew Goldstein, Lars Brink, Mai Dang, Nathan Niu, Julien Destorel, Linda Robbins, Pierre Charlebois, Fred Oleson, Debbie

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² Macro forecasts are pooled forecasts from leading Canadian financial institutions and the Conference Board of Canada.

³ Price projections are pooled forecasts from industry associations, Canadian Grocer, Food in Canada, and AAFC's Food Bureau.

⁴ A recent study by KPMG compared business costs in the agri-food sector and 11 other industries in 86 different international cities (KPMG 2000). In food processing, Canadian cities ranked 1st in North America - with costs roughly 7 below U.S. counterparts - and 4th overall, closely following cities in the UK, Italy, and the Netherlands. This may change, however, with the appreciation of the Canadian dollar.

⁵ Manitoba and Saskatchewan were the sole exceptions to the trend toward greater market share for chain stores.

⁶ These low prices may be partly due to efficient supply chain management. However, they may also be due in part to the "threat of entry". Wal-Mart intends to roll out its successful pantry line-up to 90% of its Canadian discount stores, which could make a sizeable dent in the sales of Canadian retailers. Wal-Mart has plans for another 60+ of these stores over the next 5f years.

⁷ However, it is important to note that many farm inputs— including fuel, fertilizer, herbicides, and pesticides— are also sensitive to changes in the exchange rate, a factor which could prove beneficial to producers.

⁸ Statistics Canada's (STC) seeding intentions survey provided estimates of areas seeded for most of the pulse and special crops by province but, in some cases, the area seeded has been forecast by AAFC's Winnipeg office.

⁹ <http://www.inspection.gc.ca/english/anima/heasan/disemala/bseesb/bseesbindexe.shtml>.

CANADA

	Units	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
FOOD CONSUMPTION PATTERNS											
Per capita caloric intake	Cal./day	3100	3056	3127	3114	3110	3127	3130	3130	3130	to come
From animal products	Cal./day	901	849	906	896	894	906	890	890	890	to come
From vegetable products	Cal./day	2199	2207	2221	2218	2217	2221	2220	2220	2220	to come
Protein (% of calories)	Percent	14.8	14.7	14.5	14.3	14.1	14.1	14.0	14.0	13.9	to come
Fat (% of calories)	Percent	33.9	33.6	33.3	33.1	32.9	32.8	32.9	32.9	33.0	to come
Carbohydrates (% of calories)	Percent	51.3	51.8	52.2	52.6	53.0	53.1	53.1	53.1	53.1	to come
FOOD PRICES											
Disposable personal income	US\$/capita	12531	12596	11600	11490	11805	12160	12500	12875.5	13133	13395.7
% disposable income spent on food	Percent	13.7	13.6	13.8	14	14.2	14.3	14.5	14.4	14.3	14.2
% spent eating out	Percent	4.4	4.3	4.3	4.4	4.7	4.8	4.9	4.9	4.9	4.9
Food price index	Index 1992=100	104.6	106.0	108.2	109.7	111.0	112.9	118.0	121.0	123.5	125.9
General Price Index (CPI)	Index 1992=100	104.2	105.9	107.8	109.8	112.1	114.6	117.9	120.6	124.0	126.7
POPULATION AND INCOME DISTRIBUTION											
Total population	Million	29.63	29.67	29.99	30.25	30.50	30.75	31.00	31.35	31.70	32.05
Urban	Million	23.26	23.29	23.60	23.87	24.13	24.38	24.65	24.99	25.33	25.67
Non-urban	Million	6.37	6.38	6.39	6.38	6.37	6.37	6.36	6.36	6.37	6.38
SHARE OF AGGREGATE INCOME RECEIVED BY EACH QUANTILE OF FAMILIES											
Lowest fifth	Percent	6.4	6.1	5.9	5.7	5.5	5.3	5.2	5.1	5.1	5.1
Second fifth	Percent	12	11.9	11.8	11.7	11.6	11.5	11.3	11.2	11.1	11.1
Third fifth	Percent	17.4	17.4	17.3	17.1	17.0	16.8	16.7	16.6	16.5	16.5
Fourth fifth	Percent	23.9	24	23.9	23.7	23.6	23.4	23.3	23.2	23.1	23.1
Highest fifth	Percent	40.2	40.6	41.2	41.8	42.4	43.0	43.6	44.0	44.3	44.3
Gini Ratio		0.34	0.34	0.33	0.32	0.31	0.3	0.28	0.28	0.28	0.28
SHARE OF POPULATION IN THE FOLLOWING AGE GROUPS											
0-4 years	Percent	6.8	6.6	6.4	6.3	6.0	5.8	5.5	5.4	5.3	5.2
5-14 years	Percent	13.6	13.6	13.6	13.5	13.4	13.3	13.2	13.1	12.9	12.7
15-19 years	Percent	6.8	6.8	6.8	6.8	6.8	6.7	6.7	6.7	6.7	6.7
20-44 years	Percent	40.0	39.6	39.3	39.0	38.6	38.2	37.9	37.5	37.1	36.7
45-64 years	Percent	21.0	21.3	21.7	22.2	22.7	23.3	23.9	24.5	25.1	25.7
65-79 years	Percent	9.3	9.4	9.4	9.5	9.6	9.6	9.6	9.6	9.6	9.6
80 and over	Percent	2.7	2.7	2.8	2.8	2.9	3.0	3.1	3.2	3.3	3.4
medium age of population	Years	34.8	35.3	35.76	36.22	36.68	37.14	37.6	38.0	38.4	39.2
Female labour force particip. (>=25 yrs)	Percent	52.3	52.1	52.7	53.8	54.6	55.5	55.60	56.4	56.6	56.8
HEALTH											
LIFE EXPECTANCY											
Males	Years	75.2	75.5	75.8	76.1	76.3	76.1	76.1	76.1	76.2	76.2
Females	Years	81.1	81.2	81.4	81.5	81.7	81.9	81.9	81.9	81.9	81.9
FOOD INFRASTRUCTURE											
Trade capacity											
Grain and oilseed exports (crop year)	1000 tonnes	25246	29299	29091	24341	27949	27615	23266	15000	24000	25000
Grain and oilseed imports (crop year)	1000 tonnes	1024	1276	1854	1448	1659	2855	5381	5600	2900	2800
Total food and agricultural trade	Million US\$	22,088	24,513	27,048	26,294	25,717	27,399	29,595	29,567	29,400	30,000
Total food and agricultural exports	Million US\$	12828	14754	16243	15248	14643	15693	17192	16397	16700	17000
Total food and agricultural imports	Million US\$	9260	9758	10805	11046	11074	11705	12404	13170	12700	13000
Fishery exports	Million US\$	2232	2184	2201	2162	2177	2200	2725	2900	3000	3000
Fishery imports	Million US\$	1048	1177	1143	1213	1283	1400	1400	1390	1400	1400
Perishable products	Million US\$	4012	4091	4211	4550	4830	5119.8	5375.79	5650	5800	6000
FOREIGN INVESTMENT IN THE FOOD SECTOR (AUTHOR'S ESTIMATES ONLY)											
Inward FDI stock in the food sector, Total	Million US\$	10298	11132	12342	12500	12750	13000	sector specific statistical data no longer available			
Outward FDI stock in the food sector, Total	Million US\$	6215	6085	5956	5800	6500	7000	sector specific statistical data no longer available			
ROLE OF AGRICULTURE AND TRADE IN THE ECONOMY											
Agriculture as share of GNP (GDP)	Percent	1.7	1.8	1.7	1.6	1.6	1.6	1.7	1.7	1.6	1.6
Self-sufficiency in grain	Ratio of net production/consumption	1.76	2.07	1.72	1.77	1.76	1.75	1.6	1.2	1.5	1.7
Self-sufficiency in horticultural products	Ratio of net production/consumption	0.8	0.9	0.9	0.9	0.9	0.9	0.9	0.85	0.9	0.9
POLICY TRANSFERS											
Consumer subsidy equivalents	Percent	-12	-12	-14	-16	-16	-14	-13	-14	-14	-14
Total transfers from Taxpayers	Million US\$	5197	5101	4373	4773	4324	5186	5119	5400	5300	5500
Consumer nominal assistance coeff. (NAC)		1.13	1.13	1.16	1.19	1.18	1.17	1.15	1.15	1.15	1.15
Total transfers per capita	US\$/capita	175	175	143	145	152	154	147	144	148	151
MACROECONOMIC DATA											
Exchange rate	Cdn\$/US\$	1.37	1.36	1.39	1.48	1.49	1.49	1.55	1.57	1.39	1.33
GDP growth (real at 1992 \$)		2.6	1.2	3.8	3.0	4.2	4.7	1.5	3.4	2.8	3.4
Bank rate		7.3	4.5	3.5	5.1	4.9	5.8	4.3	2.8	3.5	4.3

CANADA

	Units	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
INFRASTRUCTURE											
Marine port throughput (not capacity)	million tonnes (estimated)	360	358	355	360	365	370	370	370	370	370
Marine port est capacity	million tonnes	403	407	410	413	417	420	420	420	420	420
Containers handled	million tonnes	15	17	19	19	20	20	20	20	20	20
Road access	000 kms	902	905	908	912	915	918	918	918	918	918
Rail access	000 kms	80	77	77	76	75	74	74	74	74	74
Phone access	Percent households with telephones	98.5	98.7	98.7	98.7	98.7	98+	98+	98+	98+	98+
Telecommunications	Lines	17763	18051	18051	18051	18051	18051	18051	18051	18051	18051
Refrigeration access	Percent households with refrigerators	99.7	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6	99.6
Overall energy balance											
Power generation	Billion Kwh	537.00	551	551	543	547	552	552	552	552	552
Production	PJ	4829	4869	4909	4947	4984	5020	5020	5020	5020	5020
Consumption	PJ	3425	3478	3531	3585	3638	3691	3691	3691	3691	3691
Ratio of production/consumption		1.41	1.40	1.39	1.38	1.37	1.36	1.36	1.36	1.36	1.36

Note: Basic data is from the sources indicated. Estimates and forecasts are the authors.