Agriculture and Agrifood: Choosing the Future

Consultation document

Commission sur l'avenir de l'agriculture
et de l'agroalimentaire québécois

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Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois

Jean Pronovost, *chairman*
Mario Dumais, *commissioner*
Pascale Tremblay, *commissioner*

Suzanne Dion, *secretary general*

RESEARCH AND TEXT
Denis Cormier, *research director*
Jean Dionne, *communications director*
Jean-François Aubin, *analyst*
Jacques Bélanger, *analyst*
Michel Carignan, *analyst*
Bertrand Venne, *analyst*

ASSISTANCE
Eco Ressources Consultants

PRODUCTION COORDINATION
Gino Desrosiers, *communications advisor*

TECHNICAL SUPPORT
Odette Côté, *administrative assistant*
Sylvie Jolicoeur, *administrative assistant*
France Pelletier, *communications advisor*

LINGUISTIC REVISION
Pierre Senéchal

ENGLISH TRANSLATION
Benjamin Waterhouse
Christine Gardner

LAYOUT
Folio et Garetti

PHOTOGRAPHS
Guy Tessier

Ce document est également disponible en français

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An invitation to participate

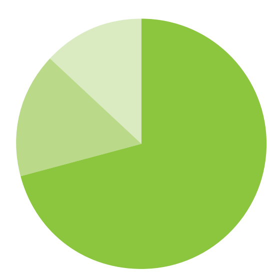
The primary mission of Quebec's agriculture and agri-food sector is to contribute toward feeding people, in Quebec and around the world. While meeting our vital need for food, the sector also produces non-comestible goods such as fibre, horticultural products and bio-energy. As a result, it is at the heart of a number of societal issues that concern everybody.

Production, processing and distribution, including activities in the hotel, restaurant and institutional (HRI) sector, are economic activities that generate wealth, jobs and exports. Currently, the agri-food sector in Quebec employs some 452,000 people.

For those who make their living from agriculture, it is a lifestyle as well as a source of great personal and family satisfaction. A number of specific skills are required to be successful. Training, advisory services, research and innovation are therefore of strategic importance.

In 2001, Quebec had approximately 47,390 farm producers working on 30,539 farming operations.

Graph 1 – BREAKDOWN OF JOBS IN QUEBEC'S AGRI-FOOD SECTOR



Distribution and HRI: 71 %
Processing: 16 %
Production: 13 %

Agriculture is the territorial foundation of Quebec's rural fabric. By definition, it is the primary and most stable factor in the dynamic occupation of the land. It plays a significant role in shaping Quebec's landscape as well as its economic development.

Because agriculture occupies such a large percentage of Quebec's inhabited land mass, it has a major impact on our environment. Farm production methods that are respectful of water, soil and air quality therefore benefit the entire population.

Agriculture and the agri-food sector are core elements in any strategy designed to protect and promote health. Long before medical care becomes necessary, healthy living habits, including eating a variety of healthy foods, are key factors in determining our individual and collective health.

Every one of these issues comes with its own set of problems and upheavals. Some have gone so far as to use the term crisis. Yvon Vallières, Minister, Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec, had this to say when introducing the Commission members:

> *"Our business environment is becoming increasingly constrained as a result of elements such as the farm income crisis, chronically low cereal prices, problems in the pork sector, the mad cow crisis, threats to supply management and the strength of the Canadian dollar. There are also a number of paradoxes, such as rising land prices, soaring quota costs and continued increases in the volume of farm gate sales. At the same time, short-term crises have tended to disguise some major long-term trends, namely the leveling-off of farm prices, rising costs and increasingly strong competition."*

Over the years, society's expectations of the men and women whose job it is to feed the population have increased and become more complex. The precarious financial situation of Quebec's farms, along with high debt and stress levels and the problem of inter-generational farm transfers, are the most common difficulties currently faced by the sector.

The farming profession is demanding in terms of time and training, as well as personal and financial investment. Farmers are expected to produce more efficiently, in terms of quantity and quality, to satisfy the increasingly diverse tastes of consumers, and at the same time they are asked to help improve Quebec's exports—all within a context of worldwide competition where food product prices are tending to stagnate or decline and production costs are rising steadily.

In the rural community, agriculture is no longer the only, nor even the majority, stakeholder. City dwellers are moving out to the country, and along with the peri-urban population and other rural inhabitants, they are beginning to express new values. They are also making new demands concerning the impact of farming on the quality of the environment.

Today, Quebec's farming population accounts for just 6.4% of the total rural population.

Farm size is increasing, while farm numbers are declining steadily. This has clearly had an impact on the dynamics in rural communities.

Growing public concerns about health and food quality also have an impact on agriculture and the food industry. At the same time, the trust between consumers and the food production, processing and distribution chain has been eroded.

Some people believe technological innovations, such as the introduction of GMOs, pose a threat to human health, livestock health, biological diversity and the environment.

Processing companies, for their part, feel trapped between producers, distributors and the demands of international competition.

Some observers believe it is now time to re-examine the system used to govern the sector's institutions. The question is this: should the relationships between the players in the sector be adjusted and their roles updated to meet the challenges of the future?

In light of the situation outlined above, the Quebec government has instructed the Commission

- to review the issues and challenges now facing the agriculture and agri-food sector in Quebec;
- to examine the effectiveness of current government actions;
- to make an assessment;
- to make recommendations that reflect the challenges of competition, farm incomes, societal expectations and the development of potential in the regions.

To do this, the Commission will organize public hearings throughout Quebec so that everyone who wishes to do so will have an opportunity to express their opinion. At the same time, the Commission will make a deliberate effort to examine every aspect of the problems addressed, and will systematically seek out different viewpoints. The Commission will encourage dialogue, compare opinions, seek balanced solutions and, as far as possible, articulate a viable consensus on the questions raised.

This consultation document has been prepared as part of this process. It is divided into ten chapters on specific topics, including production, processing, environment, and others. Issues such as health, innovation, profitability and the farm transfer process are woven into several different topics and are mentioned in different places. Each chapter contains some generally accepted or frequently repeated observations, data on various trends and a certain number of questions. The data are often based on average values that do not always reflect every aspect of the sector, or every feature of production, the regional situation, farm size or other elements under consideration.

The document is by no means exhaustive, and is not intended to shape the eventual conclusions of the consultation process or the recommendations to be made. Its sole purpose is to provide a summary profile that will trigger and fuel discussions. This profile has been designed to help participants identify a vision and some main themes, and to propose different options.

The Quebec government has asked the Commission to work with the population to define the main elements in a renewed vision of agriculture and the agri-food sector. The members of the Commission firmly believe that the best way to achieve this is through an open, transparent and disciplined debate.

It is with this in mind that the Commission puts forward the following observations and questions, and cordially invites you to take part in the Commission's work.

1 The food requirements of the population

Quebec's agriculture and agri-food sector ensures a secure supply of food for people both at home and abroad. In an increasingly inter-related world, it is part of an economic network that spans markets in Quebec, Canada and the world, creating a flow of exports and imports to meet the population's food requirements.

The population must not only be fed, it must also be well fed. The growing prevalence of obesity, along with the related problems of diabetes and cardiovascular disease, has led to the emergence of a number of public health issues that are of concern to the agriculture and agri-food sector. One of these issues is the need to create an environment that will encourage as many people as possible to adopt healthy eating habits.

THE QUEBEC MARKET

A number of social and demographic characteristics influence our food requirements. Since population growth and consumption are relatively stable, the volume of food consumed in Quebec is expected to level out in the future.

The portion of total income spent on food in Quebec and Canada is shrinking. Between 1997 and 2004, it fell from 13.2% to 12.5% in Quebec, and from 11.5% to 10.9% in Canada.[1]

Rising life expectancy and average age, the shrinking size of households, higher education levels, changing value systems and cultural diversity will all have an impact on the demand for food.

The population is ageing, in both Quebec and Canada. The Institut de la statistique du Québec (ISQ) forecasts that the portion of the population aged 50 and over will rise from 31% in 2001 to 44% in 2036.[2] The first members of the Baby Boom generation turned 60 in 2006, and are now beginning to retire. In the last 20 years, the number of people in Quebec aged 65 and over has increased, while the number aged 15 and under has declined.

According to ISQ forecasts, by 2010 the over-65 age group will have overtaken the under-15 group in terms of size.

Based on the reference scenario used by the ISQ to forecast demographic trends, the Quebec population should stop growing in 2031, at which point it will stand at nearly 8.1 million people.[3] The demographic curve is then expected to descend, slowly at first, but picking up pace over time.

Because of its ageing population, Quebec's consumer food sector will probably offer some interesting prospects for the development of products that address concerns relating to health and old age.

Consumers are increasingly sensitive to the composition and nutritive value of the food they eat, and are seeking a better dietary balance. Consumers are also increasingly concerned with food quality and safety. Faced with a population that wants to remain active and healthy for as long as possible, the agriculture and agri-food sector will probably have to concentrate even more on the quality aspect of its products.

Obesity and its complications, along with many cardiovascular disorders, have food-related causes that scientists and the general public now understand fairly well. In the future, Quebec's food sector will probably offer many opportunities for the development of products that address the health concerns of the population.

Families are busier than ever before, and their time is at a premium. In many families, both spouses work and have less time to spend on preparing meals. These trends have been clear for some time, and there is every indication that they will continue in the future. Consumers are therefore seeking healthy foods that can be prepared quickly and easily.

The number of people per household is falling, and the trend now is towards households composed of one or two people (63% of all households in 2001).[4] The number of childless couples and the growing numbers of young adults (20 to 29 years of age) who live with their parents also have an impact on consumer habits.

The impact of the cultural communities on society is significant. They have their own dietary preferences that influence, at least to some extent, the variety of foods stocked in local markets, thus contributing to changes in consumer habits.

In the 1990s, consumers gradually began to incorporate ethical, political and environmental considerations into their food and consumption choices. This ongoing trend has led to the emergence of new requirements for compliance with certain values applicable to production, processing and distribution activities. Considerations such as animal welfare, local or regional production, environmental certification, fair trade, ecological products and organic farming now have an influence on consumer choices.

The media have played, and will continue to play, a leading role in shaping eating trends. Famous chefs have become household names. The quality and nutritional value of food products, along with questions of taste, are discussed in newspaper and magazine articles and on radio and television, helping to change consumer perceptions and choices.

The Commission invites participants to think about the principal changes influencing the demand for food products:

- **Is Quebec's agriculture and agri-food sector fully prepared to respond to present and future consumer needs?**
- **What do you think of public health issues, in particular the creation of settings more conducive to healthy eating habits?**

WORLD DEMAND FOR FOOD PRODUCTS

According to studies published by the Food and Agriculture Organization (FAO),[5] the world population is increasing by more than 70 million people per year, and will level off at roughly 9.3 billion in 2050. Most of this growth will take place in Asia, Africa and Latin America. Forty-five percent of the world's population lived in cities in 1995, a figure that is expected to rise to 60% by 2015. Clearly, this will have a significant impact on farming.

Demographic growth, rising income levels, changing diets and rising per-capita consumption all influence the demand for food. The average daily per-capita food consumption will rise in developing countries; in the developed world, it is already at peak levels.

According to FAO forecasts for the period 2000 to 2030, the demand for farm products will increase by 60%, and will have doubled by 2050.

Diets will also change. The Organisation for Economic Co-operation and Development (OECD) and the FAO[6] estimate that most of the increase in per-capita food consumption will be for animal protein. This is due to the increase in per-capita income in many parts of the world. As incomes rise, people choose to consume meat, eggs and dairy products more frequently, instead of eating only cereals such as rice, corn and millet.

The combined effect of changing diets and demographic growth caused world consumption of meat to almost quadruple in the period 1950 to 1997. The FAO forecasts an additional increase of 23% for the period 2006 to 2015.

The FAO also forecasts that world food production should normally be sufficient to meet this demand in the coming decade. Production will be increased among other things through new production technologies, larger cultivated areas, more intense cultivation, better yields, the use of biotechnologies and more suitable varieties, better public information and research.

On the other hand, the problem of the gap in food availability, due mainly to access and distribution difficulties, will continue to exist, especially in developing countries where, even today, some 776 million people do not have enough to eat.

The Commission would like participants to reflect on and propose solutions to the following questions:

- **How should Quebec respond to the dynamics of world trade in agricultural and agri-food products?**
- **Should the anticipated increase in world demand for animal protein be seen as an opportunity for Quebec's agri-food sector?**

POVERTY, ABUNDANCE AND WASTAGE

Significant quantities of farm produce and food stuffs are lost at every level of the food chain. American research estimates that between 40% and 50% of all the food produced, processed and distributed never reaches consumers due to cumulative losses along the way.

The average American family wastes 130 kg of food per year.[7] Although precise figures are not available for Quebec and Canada, it is reasonable to assume that consumer behaviour is more or less the same.

Food banks do their best to use safe food resources that would otherwise be discarded, directing them towards underprivileged segments of society including many children. Social groups regularly criticize the paradox of a society of abundance and waste in which Quebecers of all ages regularly miss meals because they simply cannot afford them. Consumer groups also point out the weaknesses of the distribution network in poor neighbourhoods, especially with regard to fruits and vegetables.

The Commission would like to receive comments and recommendations on this subject.

- **How can the agriculture and agri-food sector help combat under nourishment and malnutrition?**

2 Agricultural production

Quebec's cool, rainy climate is especially suited to hay and pasture crops and has conditioned the development of agriculture in the province. Nearly 75% of all agricultural production in Quebec is derived from livestock, compared to 55% of Canadian production and 40% of world production. Agriculture in Quebec first began to shift towards what would ultimately become its principal specialty area – dairy farming – in the late 19th century.

Only a small percentage of all land in Quebec (less than 2% of the total area) is used for agricultural activity. Today, 80% of agricultural production is concentrated in the St. Lawrence Valley, mostly on the Montreal plain.

Table 1 – DATA ON AGRICULTURE IN QUEBEC

Number of producers[1]	**47 390**
Number of farming operations[1]	**30 539**
Employment[1]	**55 800**
Farm gate sales (millions)[2]	**5 487,8**
GDP (millions $)[2]	**2 324,6**

Sources :
1. Statistics Canada, *Agriculture Census*,and
2. Institut de la statistique du Québec and Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec, *Profil sectoriel de l'industrie bioalimentaire au Québec, édition 2005*, Janvuary 2006

Farm produce in Quebec may be sold directly to consumers, used as raw materials by processing companies, or be delivered directly to distributors, retailers or restaurants for the domestic or foreign markets.

Most of Quebec's agricultural production is made up of basic commodities, that is to say mass consumption products, as shown in Table 2. However, changes in consumer tastes and the arrival of new technologies have led to the emergence of products with specific features such as local and regional produce, organic products, and so on.

Table 2 – MAIN TYPES OF AGRICULTURAL PRODUCTION IN QUEBEC MONETARY RECEIPTS IN 2005 (THOUSANDS OF $)

LIVESTOCK PRODUCTION	RECEIPTS (thousands of $)	PERCENTAGE*
Dairy	**1 847 225**	**34**
Pork	**1 030 220**	**19**
Poultry and eggs	**586 651**	**11**
Other animal production including beef, sheep and lambs	**555 565**	**10**
Total cattle and animal production	**4 019 661**	**74**
CROPS		
Corn, oilseeds, cereals	**423 620**	**8**
Horticulture (vegetables and potatoes)	**394 342**	**7**
Flowers and nurseries	**249 701**	**5**
Fruit and other	**228 897**	**4**
Maple products	**151 673**	**3**
Total crops	**1 448 233**	**27**
MARKET RECEIPTS	**5 487 780**	**100**

*** Percentages are rounded off.**

Source : *Activité bioalimentaire au Québec, Bilan 2005*, Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec, Appendix, page 41.

PRODUCTION METHODS AND STRUCTURES

Over the years, agricultural production has been taken over by specialized farming operations. Production volume, business size, capital invested, and productivity from agricultural labour and land have all increased considerably. Between 1941 and 2001, the number of farms in Quebec fell from 155,000 to 30,539.

Table 3 – DEVELOPMENT OF AGRICULTURE IN QUEBEC

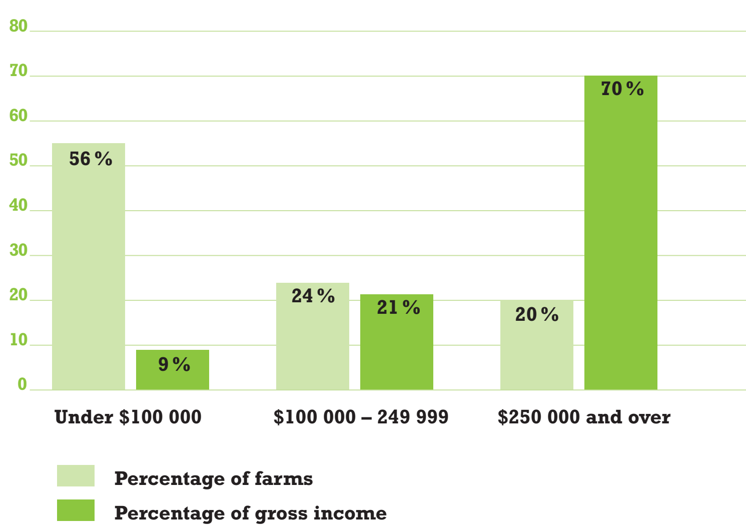
	1961	2001	Variation
Total area of agricultural land ('000 hectares)	5 746	3 417	- 41 %
Cultivated area ('000 hectares)	2 110	1 850	- 12 %
Number of farms	95 777	30 539	- 68 %
Average farm size ('000 hectares)	60	106	+ 77 %
Average cultivated area per farm ('000 hectares)	22	71	+ 223 %
Average revenue per agricultural operation (Current $)	4 359	179 029	+ 4 007 %
Capital per operation (Current $)	17 000	668 000	+ 3 830 %

Source : Statistics Canada, *Agriculture Census*

Livestock yields have also increased significantly. For example, the average milk yield per cow increased by 14% over a ten-year period, from 7,102 kg/year in 1996 to 8,115 kg/year in 2005.[1] For pigs, overall sow productivity increased by 15%, from 20.1 weaned piglets per year in 1995 to 23.2 in 2003.[2]

As Graph 2 shows, production has become concentrated among a small number of producers with the result that, in 2001, 20% of producers—those with gross incomes of more than $250,000 per year—generated 70% of total agricultural revenue. The majority (56%) contributed only 9% of total revenue in that year.

Graph 2 – FARM SIZE AND GROSS INCOME, QUEBEC



Source: Statistics Canada, *Agricultural Census 2001, Quebec results*

The introduction and adoption of new production technologies and methods have been factors in the modernization of agriculture in Quebec. Some of these technologies are generally well-received whereas others have triggered fear and suspicion, in particular those involving the use of pesticides, antibiotics, growth hormones and genetically modified organisms, which are perceived as risks to health, the environment and biodiversity. Technologies associated with resource conservation and preservation, such as direct seeding, precision farming and organic production methods have been received more favourably.

More stringent regulatory requirements, combined with the level of investment required by modern technology, have led to an increase in the size of agricultural operations and their need for capital. This trend has been strengthened by the fact that food processing and distribution companies need regular supplies in much greater quantities.

These changes are not unique to Quebec and are observed in the rest of Canada and the developed world as well.

CONCERN ABOUT THE INCOME OF FARMS AND FARMING FAMILIES

The income of farmers and farming families is a constant and major concern. Farm families have similar needs to their city-dwelling counterparts. On the other hand, rising investments have caused them to accumulate increasingly significant financial liabilities. Farm incomes can also vary from year to year as a result of price fluctuations, bad weather, natural disasters and other uncontrollable phenomena.

Agriculture is a capital-intensive activity. In other words, the amount of capital required per unit of product sold is generally higher than in other sectors. In Canada's economy as a whole, a company needs approximately $2 in assets for every $1 in sales, whereas in the agricultural sector, the ratio is between $4 and $6 in assets for every $1 in sales.[3]

Net farm income, including payments from government programs, is more stable and slightly higher in Quebec than elsewhere in Canada.[4] However, without subsidies from government programs, net farm income would have been negative in recent years. Low farm incomes are not confined to Quebec since this is a characteristic of most developed economies.

The debt ratio (total debt/total assets) of farms in Quebec has risen steadily since 1994 and is now even higher than that of other provinces.[5], increasing from 21% in 1994 to 28% in 2004 (compared with 14% to 19% for Canada as a whole.) Although the debt ratio in Quebec appears to be an indicator of the sector's fragility, it is lower than Canada's general economy (74%) and therefore does not seem to be as elevated in comparison.[6]

The incomes of farming families in many developed countries are comparable to if not higher than those of non-farming families, as studies by the Organisation for Economic Co-operation and Development (OECD) have shown.[7] In Quebec, in 2000, farming families had an average income of $59,696, compared to $59,297 for Quebec families in general.[8] In Canada, in the same year, farming families reported average incomes of $66,270 compared with $66,160 for non-farming families. This is explained by the fact that, in 2000, Quebec's farming families earned 57.6% of their income outside the farm. In Canada, the figure was 73.5%. This trend has continued; in 2003, off-farm revenues accounted for 62.2% of the incomes of farming families in Quebec, compared with 78.8% for farming families in Canada as a whole. In comparison, in the United States, off-farm revenue as a percentage of the total revenue of farming families rose from 53% in 1960 to 95% in 2000.[9]

Although farm owners in Quebec have higher debt levels than their Canadian counterparts, the value of their assets has also increased; the average net value of a farm in Quebec (assets minus liabilities) was $170,000 in 1981, but had risen to $725,000 in 2004 (including production quotas).[10]

All the above data are averages, and the situation of individual farms may differ significantly.

Accordingly, the Commission would like to hear participants' reactions to the following questions:

- **What do these trends mean for the future of small, medium-sized and large farms in Quebec?**
- **What strategies are required to manage the consequences of these trends?**
- **What role should be played by the State?**

AGRICULTURAL POLICIES

Agricultural policies cover many different aspects of agriculture. The best-known include food safety, plant and animal health, soil and environmental protection, income improvement and stabilization, financing, training and labour, research and development, outreach and technology transfers, farm support, and property tax reimbursements. Some of these areas fall under the authority of both levels of government.

In 2003-2004, Quebec ranked second among Canada's provinces for government spending in the agricultural sector, with $704 million, the equivalent of 12.9% of agricultural revenue generated by farms. Alberta ranked first with $886 million and 13.4% of farm revenue, while Ontario was fourth, with $455 million or 5.6% of farm revenue.[11]

Quebec's agricultural policies, like those of most industrialized countries, are aimed mainly at improving and stabilizing farmers' income and providing citizens with a regular supply of food at a price they can afford to pay.

Quebec and Canadian agricultural policies are directed towards three main areas of focus, namely collective marketing, farm income improvement and stabilization, and farm financing.

COLLECTIVE MARKETING

Traditionally, farmers sold their own produce to a fairly small set of intermediaries, who set the conditions of sale. In the 1950s, the Quebec government created the *Comité d'enquête pour la protection des agriculteurs et des consommateurs* (commonly known as the Héon Commission), which tabled its report in 1955. Its main recommendation was to establish mechanisms that would allow farmers to market their products collectively. The report stipulated that its recommendations were designed to trigger a significant increase in the agricultural sector's real net revenue and purchasing power.

Collective marketing, by strength of numbers and centralized sales operations, helps improve the negotiating power of farmers. It can be put into practice in a variety of ways, but there are three approaches in particular that appear to be most popular. The first is the voluntary approach through a marketing group or cooperative, with no mandatory membership. The second involves setting up a single, mandatory sales organization for a given product, known as a joint plan. Once accepted, the joint plan must be used by all units of production supplying the commodity in question. The third approach is also based on the joint plan, with the addition of production quotas, which are allocated among producers.

In 1956, the government followed up on the Héon Commission's recommendations by adopting the *Act respecting the marketing of agricultural, food and fish products* which allowed for the creation of joint marketing plans for agricultural products. Since then, producers have developed joint plans for dairy, poultry, turkeys, table eggs, hatching eggs, pork, maple, beef, blueberries, cash crops (grains), rabbits, cannery crops (vegetables), apples, potatoes, goat and lamb. To implement the joint plans, marketing boards have been set up at the producers' request. They are generally controlled by federations of producers.

The federal government added a quota-based supply management system to the joint plan formula throughout Canada. Supplies for milk, table eggs, hatching eggs, chicken and turkey are all managed in this way. The system serves to control and limit production in Canada as a whole and by province, based on the requirements of the domestic market. Supply is set based on estimated demand in order to obtain a price calculated on the cost of production.

When a system like this is introduced for a given product, the Canadian quota is divided among the producing provinces based on historical production figures. The provincial marketing boards administer the quotas and allocate them to producers based on individual production histories, and then take care of marketing.

The power to set quotas for production is associated with the ability to control imports. The Canadian government protects its domestic market by setting high customs tariffs for imports: 192.3% for table eggs, 280.4% for whole chickens, 289% for cheddar cheese, and 351.4% for butter. Despite these tariffs, significant quantities of all these products are imported into Canada. This is especially true of eggs from the United States.

Generally speaking, quotas are transacted individually between producers, or when farms are sold. Their total value in all supply managed sectors in Quebec was estimated at approximately $9.2 billion in 2005.[11]

Milk is an exception to this general rule. Quotas are sold through the Fédération des producteurs de lait du Québec which has created a centralized quota exchange system. Quota values have risen steadily. In October 2006, the quota for the yield of roughly one dairy cow was selling at a historical high of over $33,000. The rise in quota prices has become of increasing concern to the producers' federations, especially in the dairy sector in Quebec and other Canadian provinces. The high cost of a quota now constitutes a barrier to anyone wishing to purchase a farm. It is also one of the main causes of indebtedness for dairy farmers.

The emergence on the market of products not covered by the same tariff requirements has, in some cases, become a way of circumventing the customs barriers protecting sectors with quotas.

Some new products that were not foreseen when the barriers were erected can now be found on the Canadian and Quebec markets, including concentrated milk proteins which cost less and are used mainly as substitutes in the production of cheese and yoghourt, as well as butter oil-sugar combinations that are used to manufacture ice cream.

Supply management and collective marketing methods are not popular in every quarter. One of the criticisms often directed at this type of mechanism is the fact that it does not adjust quickly to changes in demand. It has been claimed that product prices would decline and consumer demand would increase if quotas were eliminated, allowing processing companies to become more competitive. In contrast, there are claims that deregulation experiments in other countries have caused a decline in the price paid to producers with no obvious benefit to consumers. There are also those who would like other stakeholders, including processing companies, distributors and consumers, to be involved in the management of Quebec's marketing boards.

The Commission therefore poses the following questions:

- **Do the current collective marketing mechanisms in force for agricultural products allow the agri-food industries to respond quickly and adequately to market needs in Quebec, Canada and abroad?**
- **Do they leave sufficient room for new products and niche production?**
- **Do marketing strategies based on supply management have a place in the present context of market liberalization? If so, what are their advantages and disadvantages, and how could they be improved?**
- **Which measures should receive priority for helping supply-managed production sectors to deal with international competitors who succeed in circumventing Canada's high tariff barriers?**
- **Should the structure of the marketing boards, currently under the authority of agricultural producers, be expanded to allow for the involvement of other interests, such as those of consumers and processors?**
- **Should agricultural policies leave more room for the goals of healthy eating and public health?**

INCOME IMPROVEMENT AND STABILIZATION PROGRAMS

The two levels of government have introduced a set of intervention measures aimed at reducing the impact of the inherent risks of agricultural production and improving producers' revenues. Quebec, for example, has crop insurance programs and farm income stabilization insurance programs.

The first level of intervention with regard to income improvement and stabilization is the Canadian Agricultural Income Stabilization Program (CAIS), created in 2003. Its purpose is to stabilize overall farm income on the basis of historical net income regardless of actual production volume. This type of program is described as "decoupled" because it is not based on production level and does not offer guaranteed prices for products. Accordingly, it is considered to be in compliance with the standards negotiated in international agreements.

In Quebec, the Program is administered by La Financière agricole.[13] It is funded by the federal (60%) and Quebec provincial (40%) governments. Financial participation by farmers varies from year to year, depending on differences in insured income. In 2004, the Program paid a total of $181 million to agricultural producers. It is currently under review, as part of a new Canadian framework strategy for agriculture, expected to come into force in 2008.

Farm Income Stabilization Insurance (known by its French acronym ASRA) is a Quebec program that was launched in the late 1970s. It is administered by La Financière agricole and supplements the federal program for 20 commodities.* Its purpose is to protect producers from market risks. Producers themselves provide one-third of the funding, and the government provides the other two-thirds. The program recorded a deficit of $373 million in 2005-2006.

ASRA has paid out compensation every year on 12 of the 20 products it covers. There is no ceiling per farm on the amount of compensation payable.

Because ASRA applies to specific products and is based on the prices received by producers for the products covered, it is more open to challenge under international trade rules. Although product support programs reduce income variability, the OECD feels they also distort market rules and allow production to be maintained independently of market needs. In other words, they do not encourage producers to question their production choices. This form of income support is included amongst those that are susceptible to being reduced by virtue of the agreements reached within the framework of the WTO negotiations.

The FAO,[14] for its part, believes farm support should foster environmental protection and social aspects rather than production objectives.

Other measures also exist to help manage the inherent risks of farming, including crop insurance, which protects against natural disasters. The crop insurance program covers only 16 types of production and certain types of risks. It paid out nearly $56 million in coverage in 2005.

The programs managed by La Financière agricole du Québec (FADQ) are funded in part by the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec. The department provided the FADQ, in 2005-2006, with $305 million which represents about half of its $637.4 million budget. In addition, $93.5 million was disbursed to producers in the same year by the department to cover the reimbursement of a portion of their property taxes.

The property tax reimbursement program takes into account the high level of capital investment in the farming sector compared to other economic sectors, and the return on capital which is lower than in other sectors. The program ensures that the farming sector is not unduly penalized.

The Commission proposes reflection in the following areas:

- **To what extent should the State intervene to support or increase the income of agricultural operations?**
- **What form should State interventions take, in terms of type of agriculture, type of farm and type of production?**
- **What should the State's priority goals be?**
- **What type of assistance should the State offer to producers?**
- **Should financial assistance depend on the nature and volume of the farm produce, the operation's total income, size or development stage, or other criteria?**
- **Should the State continue to support types of production that have been in deficit for 10, 12 and even 20 years?**
- **What could farmers do to make their farms less vulnerable and increase their flexibility?**

* Finished hogs, cow-calf, finished beef, grain-fed veal, milk-fed veal, lambs, milk lambs, heavy lambs, grain corn, soya, barley, oats, wheat silage, wheat for human consumption, feed wheat, barley, potatoes (fresh and stored), apples.

3 Food processing

The food processing industry comprises two manufacturing sectors, food and beverages, with three processing levels. Animal carcasses and wheat flour, for example, result from primary processing. Preparing meat cuts is a secondary processing operation. Tertiary processing involves combining previously-processed products and ingredients—for example, the manufacture of frozen pizzas, pies and biscuits.

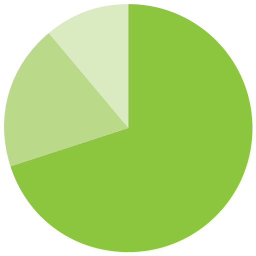
THE AGRI-FOOD INDUSTRY: A KEY SECTOR IN QUEBEC'S ECONOMY

The food processing industry is the leading employer in Quebec's manufacturing sector, accounting for 70,000 jobs and making a significant contribution to Quebec's economy. With total sales of over $18 billion in 2005,[1] food processing accounted for 1.9%[2] of Quebec's GDP and 11%[3] of its manufacturing sector.

From 2000 to 2003, the processing sector recorded higher levels of growth than Quebec's economy as a whole, an average of 4% compared to 2.5%. The food processing industry is present in most regions, and is often a central player. The Montréal and Montérégie regions generate roughly 50% of all jobs and 70% of all added value in Quebec's food processing sector.[4]

The agri-food industry processes up to 85% of Quebec's annual agricultural production. Each year, purchases of food input products by processing industries in Quebec total around $8.5 billion.[1]

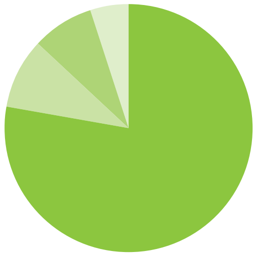
Graph 3 – SOURCE OF INPUT PRODUCTS USED BY THE FOOD PROCESSING INDUSTRY



Quebec: 70 %
Other provinces: 19 %
Outside Canada: 11 %

2005 data, source: MAPAQ, *L'activité bioalimentaire au Québec - bilan 2005*

Graph 4 – SIZE OF FOOD PROCESSING COMPANIES

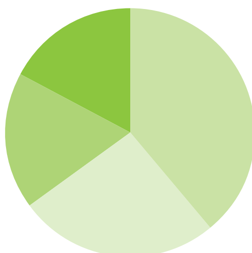


Under 50 employees: 78 %
50 to 99 employees: 9 %
100 to 249 employees: 8 %
Over 250 employees: 5 %

Sources: ICRIQ, April 2004; Statistics Canada and MAPAQ

Twenty-two percent of operations with less than 50 employees have fewer than five employees, 38% have five to 19 employees, and 18% have 20 to 49 employees. Together, they provide 19.5% of all jobs in the sector.

Graph 5 – PURCHASERS OF PRODUCTS PROCESSED IN QUEBEC



- **Retail sector and HRI, Quebec: 39 %**
- **Retail sector and HRI, other provinces: 26 %**
- **International: 18 %**
- **Production and processing, Quebec: 17 %**

The cooperative sector occupies a key position in Quebec's food processing industry, accounting for roughly 25% of processed shipments. Cooperatives process around 85% of the poultry and over half of the milk and pork produced in Quebec.[4]

The processing industry is located at the junction of two highly structured systems, downstream from agricultural production and upstream from food distribution, both of which are key links in the agri-food chain.

PROCESSING AND AGRICULTURAL PRODUCTION

It is generally recognized that Quebec processors can rely on a secure, well-structured supply of raw agricultural materials. A feature of Quebec's processing industry is its strong ties to production, especially in the sectors directly connected to livestock production (milk, meat, eggs and poultry) which account for 53% of the value of processed shipments; these sectors spend 70% of their revenue on the purchase of raw agricultural materials.[1]

A high percentage of Quebec's agricultural production is marketed collectively. This gives farmers a degree of leverage in their transactions with Quebec processors. The food processing industry in Ontario is more diversified and less dependent on the cost of the raw material supply. Some observers have pointed out that Quebec and Canada's joint marketing mechanisms may, in some cases, place upward pressure on supply costs making processors less cost-effective than their foreign competitors. Others consider that the joint marketing systems are not suited to the needs of processors producing niche products.

PROCESSING AND FOOD DISTRIBUTION

Over the last two decades, in both Quebec and Canada, there has been a trend towards concentration and consolidation in the distribution sector. Market access has become more difficult, in particular for small and medium-sized processing firms that cannot always supply the volumes required by the major distribution networks. Concentration in the distribution sector has reduced competition. In addition, many strategic decisions in the distribution sector are now made outside Quebec.

Agri-food companies must face the twin challenge of competitiveness and productivity. Processing firms in Quebec are less productive than their counterparts in Ontario. Statistics Canada reports that the combined productivity of the agricultural production/processing chain in Ontario is higher than in Quebec. GDP per employment is also regarded as a strong indicator of productivity. In food processing, this figure is 27% lower in Quebec than in Ontario. It has been suggested that this productivity gap can be explained, at least in part, by the fact that there are fewer large companies (500 employees and over) in Quebec (2.8% of the total) than in Ontario (5%) and elsewhere in Canada (4.2 %).[5]

Technology is also an important vector for productivity. In this regard, Quebec's smaller domestic market hinders access to cutting-edge technology, creates fewer opportunities for economies of scale, and reduces purchasing power.

The gross margin for Quebec's food processing industries averaged 23% between 2000 and 2003, compared to 27% in Ontario and 20% for all other Canadian provinces. Other analyses show that the profitability of Canadian processing companies is 50% below that of firms in the United States.

Quebec firms are also vulnerable to tariff and non-tariff trade barriers, especially in the United States and Japan, which are Quebec's two main export markets.

Worker availability is another important factor in productivity. Like several other manufacturing sectors, the food processing sector is finding it difficult to hire workers.

For both overseas and domestic markets, the strength of the Canadian dollar has increased foreign competition, particularly from the United States.[5]

Quebec food processing firms can, however, rely on a network of institutional resources to meet their training and research and development needs. The scope and quality of Quebec's effective, well-structured social programs, designed to meet the needs of their employees, are another significant advantage. Quebec offers some of the most advantageous production factors in the world, including a reliable, abundant and competitively-priced energy supply, as well as access to a plentiful supply of high-quality water.

The Commission's questions concern the measures that should be taken to improve the productivity and competitiveness of Quebec's food processing industry:

- **How can Quebec's food processing companies put their advantages to better use and improve their competitive capacity in domestic and foreign markets?**
- **Is the cost of raw agricultural materials a problem? If so, how is it a problem and what are the consequences?**
- **How can specialized processors be given better access to distribution networks?**
- **How can companies be assured of the manpower they need?**

NEW MARKET DEVELOPMENT

Several stakeholders have mentioned that few Quebec companies own or control brands that are recognized throughout the Canadian market. On the other hand, the Quebec market is open to products sold under brands controlled by Canadian corporations outside Quebec, or international corporations.

Distributor brands are gradually increasing their market share, and the most productive firms are given preference when sub-contracts are awarded. As a result, recognition for national brands controlled by Quebec firms is a strategic issue.

In several sectors of activity, including mass-market products, it is hard for Quebec firms to compete with large Canadian or foreign corporations, especially in export markets. The need to supply large volumes on a regular basis prevents many small firms from gaining access to these markets.

It has been suggested that the processing industry in Quebec can be developed by focusing on niche markets with higher added value, such as luxury products, including foie gras, ice cider and fine cheeses, health products such as prepared vegetarian dishes, organically-certified products and health-enhancing foods, and products of high practical value such as pre-cut apples, prepared meats and dishes, etc.

To capture a market niche, businesses must exhibit creativity, a highly-developed sense of innovation, and a strong ability to adjust quickly to a particular context. Many firms have in fact been successful in niche markets showing that versatility, creativity and the ability to innovate can allow an enterprise to seize new business opportunities.

The Commission would like participants to respond the following questions:

- **What are the most promising market sectors?**
- **What conditions must be developed in order to seize business opportunities?**
- **What measures can be introduced to ensure that organizations at different levels in the agri-food chain read the market signals and work jointly to prepare a response?**
- **What role should the State play?**
- **How can processors be encouraged to develop products with positive impacts on health?**

4 Distribution of food produce

Food products are distributed through two main but separate channels: retails sales, and the “HRI” sector, made up of hotels, restaurants and institutions.

In 2004, the two distribution sectors had total sales of over $18 billion and employed over 152,000 people.[1] The retail and HRI distribution networks purchased over 45% of their food outside Quebec, including 27% from other Canadian provinces.[2]

CHANGES IN THE RETAIL FOOD SECTOR

In the 1950s, food was distributed by retail chains such as A&P, Dominion, Steinberg and Union, and by small, independent grocery stores. This was followed by a period of consolidation, which accelerated at the beginning of the 1990s and led to the enlargement and modernization of food retailing infrastructures.

Today, three companies control 75% of retail sales in Quebec, and 57% in Canada: Loblaws (Loblaws, Provigo, Maxi, Maxi & Co., etc.), Sobeys (IGA and IGA Extra, Sobeys, Tradition, BoniChoix, Rachelle-Béry, etc.), and Métro (Métro, Super C, Loeb, A&P, etc.).[2]

The rest of the market is partly occupied by independent grocers, regionally-based chains small stores offering frozen foods, and specialized stores that are either independent or affiliated with larger chains found mainly in the niche markets for luxury, organic or health food products. A significant portion of the market is also occupied by non-specialized stores such as Costco, Wal-Mart, Zellers, convenience or corner stores, and pharmacy chains.

The boundary between specialized and non-specialized stores is increasingly thin. Some food distributors have extended the range of non-food products they offer in response to sales of food products by non-specialized chains.

The retail food market in Canada and Quebec is characterized by a high level of concentration, especially compared to the United States where the market is still relatively segmented.

Despite their large market shares, the major Canadian distributors are relatively small in worldwide terms. For example, in 2004, Wal-Mart as the world’s largest food distributor, had total sales of US$309.4 billion compared to US$22.5 billion for Loblaws, which ranked 30th worldwide.[3]

There are three categories of food retailers:

- stores wholly-owned by a distribution chain (corporate or integrated stores);
- independent stores affiliated with a chain and trading under a banner (associated independent stores);
- independent stores.

The type of connection between a store and its chain influences its purchasing decisions. In particular, it determines the freedom the store has to choose its suppliers and its ability to purchase products from local producers or processors.

According to the magazine *Canadian Grocer*, integrated or corporate stores control a larger market share in Canada (60.7%) than in Quebec (36.7%). However, the combined sales of stores integrated or associated with the major chains account for a similar market share, 95% in Canada and 95.9% in Quebec.[3] Over the last 20 years, the number of non-associated independent stores has decreased significantly. In both Quebec and Canada, they now represent around 5% of the market.[2]

Processing industry representatives have voiced their concern about commercial practices that increase the difficulty of placing products in supermarkets. The major chains charge access fees, called “slotting” fees, and demand large volumes, regular deliveries at fixed times to distribution centres, product standardization and negotiation through a purchasing department. For companies located in outlying regions, the distance to the decision-making centre compounds these difficulties.

A WIDER RANGE OF FOOD PRODUCTS

The supply of food products has never been so extensive and varied. In 2005, 30,000 products could be found on the shelves of a typical supermarket, compared to 6,000 in 1953. This is due to the willingness of distributors to respond to the needs of consumers from a range of cultural backgrounds, and to a growing diversity of consumer habits. Consumers are also better informed and more receptive to new products. This market shift partly explains the trend towards the modernization and enlargement of supermarkets in Quebec. It offers business opportunities for producers, processors and distributors that are able to anticipate trends and offer innovative, competitive products.

Although these trends create business opportunities for manufacturers, they also increase the marketing challenges. Quebec processors must now advertise their products and brands and persuade consumers, who are short of time and surrounded by numerous other products, to buy them.

Traditionally, major processors have invested heavily to acquire high-volume production equipment and try to maintain stable, high-volume production for as long as possible. However, product life cycles are tending to become shorter. Businesses that are slow to adapt lose market share to more flexible businesses that are able to adjust quickly to new trends. This is the case for the highest-performing small and medium-sized businesses, which have become market leaders and have quickly scored impressive business successes with major distributors.

PRIVATE-LABEL BRANDS

The strong competition between Canadian distributors, combined with a fear of US competition, has generated a range of strategies to develop consumer loyalty. One strategy involves promoting products under the distributor’s own brand name; the products in question are obviously not available in competing stores. In designing their own-brand strategies, major distributors can use first-hand information on the expectations and behaviour of their consumers, and can adapt swiftly to new trends. As a result, private-label brands such as *President’s Choice*, *Our Compliments* and *Sélection Mérite* can compete with national brands owned by processors. Among other things, these strategies have created business opportunities for Quebec companies that do not control dominant national brands.

According to Deloitte & Touche (*Benchmarking for Success 2000*), private-labels processed foods and beverages held 27% and 28% of the Canadian market respectively in 1998. It is important to note that private brands are stronger in Canada than in the United States. According to AC Nielsen,[5] Canada ranks ninth worldwide for the market penetration of private-label products at 19% compared to 16% in the United States. Switzerland ranks first at 45%.

The gradual opening up of international trade in agricultural and food products offers additional business opportunities for major distributors as they take advantage of lower-cost supplies, especially for their private-label products. A strong Canadian dollar has reinforced this trend. Competition from US distributors obtaining supplies from the international market has encouraged other distributors to follow the same path.

The competitive capacity of the production-processing chain is a major issue for Quebec's agri-food sector. The Commission would like to hear participants' thoughts on the following question:

- **What steps or measures could be implemented to ensure that Quebec businesses of all sizes (small, medium and large), and suppliers of niche or local products, are able to increase their presence within the current food distribution system?**

FOOD PRODUCT LABELING

The labeling of food products falls under the responsibility of the Canadian Food Inspection Agency (CFIA). It has requirements relating to nutritional information, and nutritional and health claims. In Canada, labels must give nutritional information for most food products. This represents a considerable burden for some producers, who see it as a relatively costly extra expense. However, the new requirements may open the way to new business opportunities by highlighting the nutritional quality of certain products.

Increasingly, consumers want to know what their food contains, and some go even further and demand information on the origin, production and processing of the food stuffs they eat. This has been a factor in the problems caused by the introduction of genetically-modified organisms (GMOs) in the food system, and a debate about the compulsory, as opposed to voluntary, labeling of GMOs is now under way.

The Commission would like to receive opinions and comments on the following elements:

- **What is the role of labeling? How far should it be taken?**
- **What information is essential for consumers, and what information should labels contain?**
- **Should voluntary GMO labeling be made compulsory?**
- **How can the labeling burden imposed on processing and distribution companies be taken into account?**

HOTELS, RESTAURANTS AND INSTITUTIONS (HRI SECTOR)

Hotel, restaurant and institutional food services have grown considerably in Quebec and represent a key segment of the market. The percentage of HRI food spending by the Quebec population is increasing although it remains below the level in the United States.

In 2004, for the first time in the US, the percentage of HRI spending by consumers exceeded the percentage for grocery stores. That same year, Quebec's restaurant sector had sales of around $7 billion each year, a 4.5% increase over 2003. Food services in hotels and institutions accounted for another $2 billion. The HRI sector employs approximately 161,000 people.[6]

The purchasing policies of hotels and restaurants differ from those of the retail sector. Traditionally, they involve locating specific products and a more direct business relationship. There is a clear trend towards consolidation of the HRI distribution sector, in both Quebec and Canada, and also of the management of the major institutional accounts and cafeteria services of large corporations. Consolidation increases the purchasing power of the distributors and tends to distance manufacturers from the decision-making centres. One of the effects of the shift is to add entry barriers for small producers and processors who are unable to supply large volumes of their products.

Independent restaurants and small regional chains are often still serviced by local or regional distributors. Quebec reports the highest percentage of firms that are independent and not affiliated with a chain.

The Commission would like to receive opinions and comments on the following questions:

- **How can Quebec's agriculture and agri-food sector develop a true partnership with the HRI sector to take better advantage of the opportunities it offers?**
- **Should the call for bids issued by public institutions place more emphasis on Quebec products?**
- **How can distributors be encouraged to pay more attention to Quebec products?**

STRATEGIC IMPORTANCE OF THE HRI SECTOR

The positioning of processing companies with HRI distributors has often proved to be a strategic choice. Consumers who are introduced to Mexican food, sushi or gastronomy by their experience in a restaurant or through the media will often seek out similar products on store shelves.

A number of institutions, including the Institut de tourisme et d'hôtellerie du Québec (ITHQ) and the media, play a key role in guiding consumer trends and raising the visibility of local products. The ITHQ has made a significant contribution to the development of know-how in the restaurant sector, and has helped raise Quebec's profile in this area.

Some stakeholders are still concerned that the HRI market is neglected by processors despite the fact that, in addition to being strategic, this market is generally considered to be less costly and less of a risk. In addition, Quebec's hotel and restaurant sector is dynamic and creative, and contributes to the evolution of consumer trends.

5 Foreign trade in agricultural and agri-food products

Quebec exports 53% of the food it produces, and relies on imports for 45% of its food requirements.[1]

FOREIGN MARKETS

Interprovincial and international markets are becoming increasingly important as destinations for Quebec's agri-food production; their share increased from 34% of total sales in 1999 to 53% in 2005. In fact, these markets have become the principal source of growth in the agri-food sector, with an annual increase of more than 10% in shipments, compared to an increase of just 4% for the Quebec domestic market.

Quebec experienced a markedly higher increase in international agri-food exports than the rest of Canada, as well as for all other exporting nations combined, as is shown in Graph 6.

Graph 6 – EVOLUTION OF THE VALUE OF INTERNATIONAL AGRI-FOOD EXPORTS* QUEBEC, OTHER CANADIAN PROVINCES AND THE WORLD – 1991 TO 2005 (%)

*** Comprised of foodstuffs and raw materials**

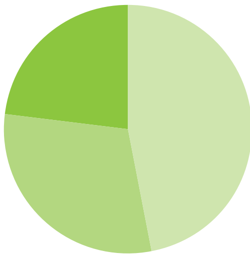
Quebec: 323

Canada excluding Quebec: 221

World: 205

Sources: WTO, international trade statistics. Stategis and ISQ, international trade statistics for Canada and Québec. MAPAQ, Intergovernmental and trade policies directorate, December 2006.

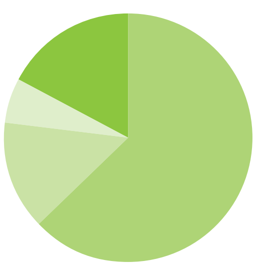
Graph 7 – DESTINATION OF QUEBEC'S FOOD PRODUCTION (2005)



Quebec: 47 %
Other provinces: 30 %
Exports: 23 %

Quebec's overall international balance for agri-food trade has been positive since 1997 mainly as a result of its exports to the United States. The balance of trade with all other countries continues to be in deficit; in other words, Quebec imports more products from those countries than it exports to them.

Graph 8 – DESTINATION OF QUEBEC'S FOOD EXPORTS (2005)



United States: 63 %
Japan: 14 %
European Union: 6 %
Other: 17 %

Quebec's international exports increased by 16% between 2002 and 2005. Quebec contributes more than 12% of Canada's total international exports, ranking behind Ontario (28%) and Alberta (16%).

International exports rose by more than 14% in the period 2001 to 2005, and imports by 19%.[2] Export growth was achieved despite a slowdown in 2003 that was due, among other things, to mad cow disease (bovine spongiform encephalopathy) and the strength of the Canadian dollar. However, export growth was only 1% in 2004-2005. Data for the first quarter of 2006 indicates a drop in the value of exports. Quebec's agriculture and agri-food exports accounted for more than 6 % of its total exports in 2003.

A NEW INTERNATIONAL MARKET DYNAMIC

Countries such as Mexico, Chile, Brazil, India and China[4] are playing a much more important role, offering products at lower prices. These countries enjoy certain advantages, including a labour force and a climate that allows them to produce raw materials and processed products at little cost. Their growing presence on the international stage has emphasized the existing downward pressure on prices and will probably alter many aspects of international trade. However, the increased supply of products has occurred in a context where worldwide demand is also growing. In addition, the cost advantage enjoyed by these countries may be counterbalanced by disadvantages in other areas such as quality, safety, traceability and reliability of shipments.

Competition on international markets is likely to intensify. As a result, Quebec's farms and processing companies will need to be efficient, innovative and flexible to adjust to these changing conditions if they are to maintain or improve their market position. In addition, the probable erosion of tariff protection due to international pressure, especially in the trade negotiations undertaken by the World Trade Organization (WTO), will fragment the domestic markets currently under supply management.

Most of the products that are exported are processed products, which in 2005 accounted for nearly 85% of Quebec's exports, compared with 76% for Ontario and 60% for Canada as a whole. The principal agri-food exports from Quebec are composed of the following notable products of animal origin: fresh or frozen pork, poultry meat, eggs, animal by-products, dairy products, and livestock. The principal exports from plant origin are: cocoa products, miscellaneous food products, fruits and vegetables, honey, maple products and sugar, cereal grains, beverages.

In 2005, Quebec exported animal products for a value of $1.6 billion, including $1 billion in fresh or frozen pork.[4]

Animal products accounted for 43% of total agriculture and agri-food exports, and pork alone accounted for 33%. The vast majority of these exports went to the American market. Pork exports to the United States rose by 58% between 2000 and 2005. Exports of crop products were valued at $2.2 billion in 2005. The most important individual products were cocoa, with exports valued at $340 million or 18% of total food exports, followed by miscellaneous foodstuffs and food products, fruits and vegetables, cereal products, beverages and maple products.[1]

It is worth noting that this export growth occurred even as the Canadian dollar soared in value. In the period 2002 to 2005, the Canadian dollar rose by 38% against the American dollar, by 32% against the Yen and by 11% against the Euro.[6]

The pork industry is Quebec's primary export sector. It is currently experiencing some difficulties and is also facing new international competitors, including Brazil.[1] Meat exports, made up mostly of pork, have declined 20% between 2003 and 2005.[5]

Exports of cocoa derivatives, although less at risk for the time being, nevertheless depend on American sugar policy and the cost of other production factors.

The Commission would like to receive comments on the following elements:

- **What importance should Quebec's agriculture and agri-food sector ascribe to exports and foreign markets?**
- **Should our strategies emphasize the importance of processed products?**
- **In view of worldwide competition, what should Quebec do to maintain or strengthen its position on world markets?**
- **What can be done to ensure that processing companies are familiar with foreign market trends?**
- **What kind of balance can be struck between supply management and exports?**

IMPORTS

Quebec's food product imports from other provinces and other countries totaled $3.5 billion in 2005, and increased by 17% in the period 2002 to 2005.[7] Imports now satisfy 45% of our food needs and represent 16% of the total value of all Canadian imports. Ontario receives 57% of Canada's imports ($12.5 billion).[1]

Quebec mainly imports processed products (more than 70%). The most important imports are beverages (23%), fruits and nuts (19%), cocoa, coffee and tea (12%), honey and sugar (11%), products containing dairy ingredients (7%) and vegetables (6%).[8]

The strong Canadian dollar has meant that imports are more competitive on the Canadian market. The higher the value of the dollar, the more it erodes tariff protection measures, especially in a context where domestic prices are rising and world prices are falling.[9] This could lead to an increase in imports of certain products, even those that are supply-managed and are protected by high tariff barriers.

Clearly, then, Quebec's economy is fairly dependent on foreign markets, for both consumption and its own food production.

Participants are invited to submit their views on the following points:

- **How important is a secure food supply in your vision of the agriculture and agri-food sector in Quebec?**
- **Do you think the importance of imports in Quebec is a threat to its own production and to a secure food supply?**
- **How should the agriculture and agri-food sector deal with the world trend towards lower tariff barriers and falling prices?**

6 Human resource development

Human resources in the agriculture and agri-food sector need training, advice and expertise if they are to develop their skills and make the right choices in an increasingly competitive environment. Research, development, new techniques and knowledge transfer will all help determine the sector's future. The task of recruiting a sufficient number of qualified employees is also a concern, and workforce development is yet another challenge for agri-food enterprises wishing to improve their productivity and innovate.

BASIC TRAINING AND CONTINUING EDUCATION

A broad range of easily-accessible training programs at the high school, college and university level are available in Quebec. The province's high schools dispense more than 20 basic training programs, and 15 of its colleges offer nine additional programs.[1]

The Institut de technologie agroalimentaire (ITA) has three campuses (La Pocatière, Saint-Hyacinthe and Sainte-Anne-de-Bellevue), and is the sector's largest college-level institution. It has a team of 300 people working on skills development and a well-established reputation that has resulted in a placement rate for its graduates close to 100%. The Institution also plays a significant role in continuing education. In 2004-2005, more than 300 continuing education sessions were dispensed to nearly 4,000 people.[2]

Université Laval and McGill University offer university-level training in agricultural sciences. Other universities and institutes also offer a range of related programs in the fields of biology, the environment and veterinary medicine.

In the hotel, restaurant and institutional sector, a number of high schools and colleges, in addition to the Institut de tourisme et d'hôtellerie du Québec (ITHQ), offer educational and training programs. At the ITHQ alone, the applications for hotel and restaurant management courses remain very high, representing 140% of the available places. At the university level, registration in recent years has grown by almost 20% each year.[3]

As far as agricultural production is concerned, MAPAQ data reveals a 30% drop in high school training program enrolments between 1999 and 2003, and a startling 47% drop for college program enrolments in the same period.[4] Between 1998 and 2006, despite financial incentives, enrolments for the *Farm Management and Technology* program offered by the ITA and a certain number of CEGEPS fell by 52%.[5]

Farmers in Quebec have the lowest level of education amongst all provinces.[6] In 2000, according to Statistics Canada, the percentage of farmers in Quebec with university qualifications was the lowest of all the Canadian provinces, and the percentage of farmers educated to Grade Nine level or less was the highest. Over the years, however, the gap has been closing. As the following table shows, the next generation of farmers is much more likely to have been educated at the post-secondary level, and the percentage of new farmers with no qualifications is declining.

Table 4 – CHANGES IN THE LEVEL OF TRAINING OF QUEBEC'S NEXT GENERATION OF FARMERS, 1995, 1997 AND 2000 (%)[6]

Level of training	1995	1997	2000
No qualifications	24	15	14
High school	49	53	43
College	22	25	34
University	5	7	9

The most popular university-level program in the agriculture and agri-food sector is agricultural science, accounting for 43% of the sector's graduates in 2001.[7] Other popular university disciplines include dietetics and nutrition, engineering (rural and food), food science and technology, and veterinary medicine.

The Commission would like to receive comments and opinions on agriculture and agri-food training:

- **Do the available programs meet present and future needs?**
- **What steps could be taken to increase the number of agricultural graduates and ensure that all farmers receive sufficient basic training?**
- **What can be done to increase participation in continuing education programs?**

LABOUR NEEDS

The agri-food sector as a whole employs approximately 12% of Quebec's total workforce. However, Emploi-Québec expects the percentage to decline slightly in the medium term.[8]

Table 5 – DISTRIBUTION OF THE 452,000 JOBS IN QUEBEC'S AGRI-FOOD SECTOR[9]

Field	Percentage
Agricultural production	13
Processing	16
Distribution and HRI	71

The farming sector is losing livestock-related jobs but gaining crop-related jobs due to the strong demand for seasonal workers. This trend is expected to continue. The overall number of jobs will not increase, but the skills required to perform them might.[10]

Family labour is no longer sufficient. Farms are increasing in size and families are having fewer children. Farmers must therefore face the challenge of recruitment, and the further challenge of training and sustaining the interest of the people they hire. The sometimes difficult working conditions in the farming sector, combined with a work week spread over seven days and low pay, add to the challenge and generate problems in terms of both recruitment and stability.

In the food processing industries and food-related services sectors, the problem of recruiting and sustaining the interest of workers is common. Difficulties arise from the fact that many of the jobs are demanding and the food industry must compete with other types of firms seeking to attract people from the same labour pool.

Agriculture and agri-food enterprises need a larger workforce that is both stable and competent if they are to continue to develop.

The Commission would like to receive comments and opinions on the strategies required to attract and retain human resources in the agriculture and agri-food sector.

- **What strategies should be used to provide agriculture and agri-food enterprises with the qualified workers they need?**
- **What role should governments play?**
- **How can a new pool of workers, such as immigrants, be attracted to the agriculture and agri-food sector?**

INNOVATION

In the present, highly competitive context, everyone agrees on the importance of innovation. Research, technology watch activities and knowledge transfers are a source of profit and productivity, product diversification, adapted solutions and new processes.

In 2002, a total of around $178 million was invested in agriculture and agri-food research in Quebec, half by the industry itself, 36% by the federal government and 14% by the provincial government. R&D spending in the sector increased significantly between 1995 and 2002, from $43 million to $89 million.[6] This situation reflects, in part, the decision by MAPAQ to support the development of public/private corporations. R&D activities have also been implemented with input from the industry, and this transfer of resources has created new leverage.

In 2002, R&D spending by food processing companies accounted for 0.24% of shipments, compared with 0.15% for Canada as a whole and 0.16% for Ontario[6]

In fiscal year 2004-2005, MAPAQ directly invested a sum of $22.5 million in technological innovation in the form of support for centres of expertise, research corporations and joint initiatives.[10]

Knowledge is transferred via extension activities. As an example, every year the Centre de reference en agriculture et agroalimentaire du Québec (CRAAQ) reaches approximately 20,000 clients through its conferences, publications and web-based databank.[11] The federations of the Union des producteurs agricoles (UPA), cooperatives, MAPAQ offices and many other associations also organize a host of extension activities. A number of specialist publications and web sites also disseminate information.

Based on your own vision of the agriculture and agri-food sector, what strategies are needed to support research, technology watch and new knowledge transfer activities:

- **Is sufficient money being invested in research, technology watch and new knowledge transfer activities, and is the money being properly targeted?**
- **Do the investments target the market niches with the best future potential?**
- **How can exchanges between the various knowledge producers be improved?**
- **What can be done to maximize the impact of investments in research and development?**
- **What can local and regional authorities do to support innovative activities within their territories?**
- **What role should the State play?**

SPECIALIZED ADVISORY SERVICES

Advisory services are vital to the transmission of new knowledge. To play their role properly, consultants must be aware of recent findings, especially from applied research. They must forge and maintain trust-based contacts with their customers.

Farm advisory services used to be almost exclusively the responsibility of MAPAQ. Twenty years ago, MAPAQ changed its strategy, cutting back on direct interventions and reducing its workforce, and providing financial support for group advisory structures instead.

The collective formula, developed first by the farm management clubs, allows groups of farmers working on a voluntary basis to develop a service that they themselves manage and partly fund. Using this model, advisory services were subsequently developed in the areas of production, agro-environmental techniques and farm transfers.

Regional advisory networks were also created. The aim was to make advisory services more accessible and to tailor them more to the needs of individual regions.[15] Subsidized advisory services are used by only one-third of Quebec's agricultural operations.[12]

A number of farm suppliers, financial institutions, feed companies and cooperatives have recruited agronomists and technicians and developed their own advisory services. These services are used extensively and are also valued by producers, although they are perceived in some quarters as being less neutral.

The need to coordinate these services while maintaining their accessibility and increasing the number of users has received a great deal of attention in recent years. The federal government's strategic framework, by leaving more room for individual choice by farm managers, has also helped to change the dynamics of the situation, especially with regard to the group formula.

Processing and distribution companies have access to the services of firms of all types offered through Emploi-Québec, the Ministère du Développement économique, de l'Innovation et de l'Exportation and other federal and provincial government departments and agencies.

Lastly, a number of private companies join with professional, sector-based associations in order to obtain the expertise they need through workshops, conferences, events, and so on.

The Commission proposes the following subjects for reflection, among others:

- **How can access to advisory services be developed?**
- **What can be done to guarantee the quality of all these services?**
- **What can be done to ensure that existing resources work together?**
- **Does training for advisors and consultants meet current needs?**

7 Agriculture, agri-food and the environment

All human activities have an impact on, and modify, the environment. Agriculture, by its very nature, is a major user of resources such as land and water. In fact, with 1.9 million hectares of land under cultivation,[1] agricultural production occupies much of the inhabited portion of Quebec. Taken together, these two observations underline an inescapable fact: the quality of our environment, and of its ecosystems, is closely tied to the quality of our agriculture and agri-food practices.

Our living environment is fragile and we must take care of it—this is the message we have received from citizens of all backgrounds. Agriculture must preserve the resources on which it depends if it is to remain viable. Water and soil quality are essential to its ongoing survival.

The practices best suited to preserving the environment require work and investment by government, farmers, processors and other stakeholders. Although efforts in Quebec compare favourably to those elsewhere in Canada and around the world, research tends to show that the results obtained are not completely satisfactory, and that we have not yet attained the balance needed to ensure sustainable development.[2]

MAIN OBSERVATIONS

WATER

In Quebec, water management has been based on watersheds since 2002. A watershed is a drainage basin comprised of an area of land in which all surface water drains towards the same outlet. The watershed approach is designed to take into account all aspects of water management, ecosystems and water usage by all players within the watershed.[3]

Animal, industrial and domestic waste, including runoff from septic systems along lakes and rivers, overflow from municipal sewage systems[4], and mineral fertilizers and pesticides, are the main sources of water pollution in Quebec.[5] If the ability of a watershed to support pollution is exceeded, various types of algae (including cyanobacteria) and aquatic plants may proliferate making the water unsafe for swimming and drinking.

A sign of the direction in which the agri-environment is moving is that over the last three years, the number of bodies of water in Quebec affected by cyanobacteria has increased from 53 to 73.6 Phosphorous has been identified as the main factor in this proliferation.[7]

Numerous water supply systems in rural areas that rely on groundwater, as well as private domestic wells, are or have been affected by nitrates. A study entitled *La qualité de l'eau potable dans sept bassins versants en surplus de fumier et impacts potentiels sur la santé*, carried out in 2004, compared intensive agriculture zones and control zones in seven different watersheds. The results show that wells in agricultural zones contain more nitrites and nitrates, but similar numbers of micro-organisms.[8]

The authors of the *Suivi 2003 du Portrait agroenvironnemental des fermes du Québec*[9] state that controlling diffuse pollution generated by pesticides is a key issue for regions where over 50% of the land is treated with pesticides, in other words six out of the 14 regions in which agriculture is prevalent.

Within a given watershed, research has shown a causal relationship between areas where the land is worked for cultivation purposes, for example for crops such as corn and potatoes, and a deterioration in water quality. There is also a link between total forested area and water quality within a watershed.[10]

Urban sprawl and agricultural expansion have led to the disappearance of forests and wetlands which act as sponges and help stabilize water flow after storms and snowmelt. This situation has increased runoff and the risk of soil erosion.

SOIL

An agricultural soil is a living environment that requires a correct balance of water, air, living organisms and nutrients. This balance ensures the health of the soil. When the balance is upset, plants can no longer grow at their optimum rate and crop yields may be affected. Nature takes several thousand years to “create” a balanced soil.

In recent decades, pork and poultry farms often have not owned any land under cultivation. In some cases this can lead to an imbalance between the area of land under cultivation and the volume of animal waste to be spread in a given zone.[11]

The last exhaustive scientific study of soils in Quebec, *Inventaire des problèmes de dégradation des sols agricoles du Québec w*as published in 1990. More recent data from a survey conducted by IRDA and MAPAQ on the minerals present in soil, particularly phosphorous, show that over-fertilization[12] exists in watersheds with higher concentrations of livestock and more intensive agriculture.

AIR

According to the Ministère du Développement durable, de l’Environnement et des Parcs (MDDEP) agriculture contributes around 9% of Quebec’s greenhouse gas emissions, mainly in the form of nitrogen losses from soil under certain specific conditions, methane production from bovine digestion, and manure slurry storage. For comparison purposes, the transportation sector emits the most greenhouse gases (37%), followed by the industrial sector (31%).[13]

Agricultural activities, and especially the pork sector, also produce odours mainly from the spreading of manure. This has led to social problems in some regions where farms are located close to residential areas. In addition, according to MAPAQ, more than 50% of dairy farms now manage their animal waste in liquid or semi-liquid form, adding to the odour problem.[14]

BIODIVERSITY

More than 70% of the forest habitats in the St. Lawrence Valley have disappeared. Agriculture, by changing the habitats of wild species and using a small number of cultivated plants, results in a reduction of biodiversity. It is estimated that the risk of biodiversity loss is high when forest cover falls below 30% in a given area.[15] Wooded areas on farms have a number of important functions for ecosystems, especially by preserving native animal and plant species in the agricultural environment and by acting as windbreaks.

Transgenic plants are seen by some people as a cause for concern because they disperse alien genes into the environment.[16] Genetically-modified plants contain genes from other species, including bacteria, viruses, plants or even animals. Scientific examination has shown that dispersion may create a risk of toxicity for insects, an increase in resistant insect populations, and the emergence of herbicide-resistant weeds. Other studies have demonstrated possible benefits: lower pesticide use, less toxic pesticides, less tillage and increased agricultural production.

The Commission would like to hear the views of participants concerning strategies and ways of achieving and maintaining a balance between the environment and agriculture.

- How can the responsibilities of the agricultural, industrial and municipal sectors with regard to environmental protection be exercised more effectively?
- Are the strategies used to manage animal waste appropriate, especially with regard to water quality?
- What steps should be taken to reduce the negative effects of liquid manure management?
- Which are the best agronomic practices, especially in connection with fertilization, soil conservation and pesticide use?
- How can agriculture help reduce greenhouse gas emissions and contribute to the broader effort to reduce global warming?
- What should be done to maintain and increase biodiversity on agricultural land?
- What do you think about the use of genetically-modified plans in terms of the risks and benefits they represent?

GOVERNMENT POLICIES

Government policies, laws, regulations and assistance programs based on sustainable development have gradually been introduced to address the complex environmental and co-habitation problems faced by the agricultural sector.

- In 2002, the *Quebec Water Policy* introduced a watershed approach following extensive public consultation by the Bureau des audiences publiques sur l'environnement (BAPE).
- The *Groundwater Catchment Regulation* is intended to protect groundwater used for human consumption, and to manage groundwater extraction.
- The *Protection Policy for Lakeshores, Riverbanks, Coastal zones and Floodplains* governs conservation practices for the areas in question.
- The *Regulation on Agricultural Operations* is intended to restore a balance between the volume of effluent generated by livestock operations and the soil's carrying capacity for animal waste. Phosphorous levels serve to establish the limit for applying farm fertilizers. Since 2004, amendments to the Regulation have prohibited the creation of any new lots of cultivated land in a large number of municipalities.[17]
- The *Agricultural Operations Regulation* specifies that by 2010, all farms must have access to 100% of the area required to spread the animal waste they generate from their livestock activities.[17] If a sufficient area of cultivated land is not available, they will have to process and dispose of the waste in another way. Many people wonder if this objective is achievable.
- The use of pesticides is governed by the *Pesticides Act*, the *Regulation respecting permits and certificates for the sale and use of pesticides* and the *Pesticides Management Code*. Under these rules, farmers must pass an examination in order to obtain a certificate allowing them to use pesticides for agricultural purposes.

Financial support measures have been implemented by the government, in particular to help farmers make the investments required to comply with environmental standards, support research, create incentives for sound agricultural practices and offer advisory services in the agri-environmental field.[18]

In 2001, Quebec's programs and regulations generated the highest level of agri-environmental investment in Canada, at $4,126 per farm. In the rest of Canada, in the same year, the average amount invested was $1,091 per farm.[19]

In 2002, the Quebec government set itself the objective of making its assistance programs eco-conditional; in other words, compliance with environmental standards became one of the eligibility criteria for government assistance. La Financière agricole du Québec and MAPAQ are responsible for applying eco-conditional measures in the agriculture sector, and the *Act respecting La Financière agricole du Québec* was amended accordingly in 2004. In 2005, MAPAQ introduced environmental compliance conditions for one of its principal financial support program, the partial reimbursement of the property taxes paid by farms. To be eligible for the program, farmers must submit a phosphorous report on their farm to the MDDEP.

The Commission would like to receive comments from participants concerning the nature and stringency of environmental requirements in the field of agriculture.

- **Do the requirements target the right problems?**
- **Are the standards sufficient?**
- **Do the standards produce the expected results?**
- **Should farmers alone bear the cost of the environmental norms they are required to uphold in the collective interest?**
- **Are current governmental agri-environment policies adequate?**
- **How could the policies be improved?**
- **Does the government have the tools it needs to enforce and follow up on its regulations and policies? Is the current level of government supervision adequate?**

8 Health and consumer concerns

The agriculture and agri-food sector, because of its role as a food producer, has a determining influence on public health. Life expectancy in Quebec has progressed rapidly, from 60 years in 1920 to 79.7 years in 2000.[1] The general health of the population has also improved markedly in recent decades.

Nevertheless, there are growing concerns about food quality and the way it is controlled. Several people have suggested a loss of public confidence in the food production and processing chain.

The agriculture and agri-food sector has also been affected by the need to switch to a healthier lifestyle. One of the key challenges of public health is to encourage individuals to eat a more balanced diet and take more exercise. Many people believe the mission and objectives proposed by the government for the agriculture and agri-food sector should include objectives centred on the promotion of consumer health.

FOOD SAFETY

The Canadian Food Inspection Agency, MAPAQ and the Centre québécois d'inspection des aliments et de santé animale are jointly responsible for compliance with food safety standards. Several government measures and programs are designed to ensure that food is safe, clean and traceable. The overall objective is to make sure the food supply is safe and minimize the risk of contamination at all stages in the production chain.

In the area of food safety, MAPAQ's priorities are established on the basis of potential risks for human health. Food products that represent a health risk are withdrawn from the market.

A survey carried out in 2005-2006 found that nine out of ten people believe the food products on sale in Quebec to be safe.[2]

Pesticides are also a cause of concern for many people. Amongst a group of 32 countries, including the members of the European Union and the United States, Canada permits the highest levels of pesticide residue. In addition, a comparative analysis with the European Union and the United States shows that Canada permits the use of 60 pesticides that have been eliminated, prohibited or withdrawn by other jurisdictions.[3]

It is important to note that Quebec's *Pesticides Management Code*,[4] which came into force in 2003, prohibits the use of more than 100 pesticide products within the municipal milieu that are still used[3] in the rest of Canada. Since 2001, the *Regulation respecting the quality of drinking water* requires the person in charge of a water distribution system serving more than 5,000 people to conduct quarterly checks for 25 pesticides. Out of 213 municipal water systems sampled from June 2001 to December 2004, 116 showed traces[5] of one or more pesticides.

It has been suggested that illnesses may be caused by the presence of undesirable substances in the environment and the food supply. However, research is, as of yet, unable to prove that the characteristics of the agri-food environment have an impact on the incidence of chronic illness.

SANITARY CHALLENGES IN LIVESTOCK PRODUCTION

In the winter of 2003, a single case of bovine spongiform encephalopathy (mad cow disease) in Alberta was enough to close the border with Canada's main customer, the United States. The following year, fears of a global epidemic of bird flu led to the widespread preventive slaughter of poultry in infected zones. The recent contamination of food products by *Clostridium botulinum*, *Salmonella* and *E. coli* bacteria has also raised concerns.

Against this background, stakeholders in the agriculture and agri-food sector, working with the Quebec government, have established a traceability system that currently tracks two products: beef and lamb. The Canadian government eventually proposes to make most retail food products traceable at all stages of the agri-food chain.

Many people believe that growth hormones are widely present in food products. They are, in fact, used by beef cattle producers to promote muscle development. However, they are not used at all in the poultry or pork sectors.[6]

The use of antibiotics is a further concern. Consumers are afraid of ingesting them with their food, or that they will spread in the environment. Some poultry and pork producers use antibiotics preventively, or to stimulate growth.

This use of antibiotics is controversial since, according to the Institut national de santé publique, they can promote the development of antibiotic-resistant bacteria.[7] The BAPE is also concerned about the potential risk created by antibiotic residues contained in manure slurry.[8]

NEW TECHNOLOGIES AND TRENDS

Over the last few years, food products have tended to reflect new trends based on the most recent scientific discoveries: functional, nutraceutical and antioxidant foods are now among the products offered. Grocery stores have now begun to stock specialized foods, such as Omega 3 milk, calcium-enriched juices and yoghurt enriched with active bacteria.

The application of certain cutting-edge technologies is also a concern. The use of genetically-modified organisms (GMOs) is highly controversial in Europe, and to a lesser degree in North America.

Currently, around a dozen genetically-modified plants have been approved in Canada. Three are cultivated in Quebec—grain corn, soya and canola.[9]

There are currently no genetically-modified fruits or vegetables on sale in grocery stores,[9] although some products contain GMO derivatives, such as soya lecithin, canola oil and corn starch. In Canada, the use of GMOs must be approved by the Canadian Food Inspection Agency, and the provinces are not involved in the approval process.

The Commission would like to receive comments from participants on the following points:

- **Are the standards used in the food inspection system, especially those that set pesticide residue levels, satisfactory?**
- **How could the food inspection system be improved?**

HEALTHY FOOD AND LIFESTYLES

The food we eat depends on our individual choices, but also on the prevailing social environment. It is important to understand how agriculture and agri-food policies help create this environment.

Consumers are increasingly aware of the content of food products, and try to avoid various types of fat, salt, and refined and allergenic sugars, while increasing their consumption of products rich in fibre, minerals and vitamins. Organic and fresh local products are also gaining in popularity.[10] Over half of all Canadians (57%) choose food products on the basis of their fibre, antioxidant and fatty acid content, among other things.[11] A campaign has been launched calling for legislation to ban the use of trans fats, as is currently the case for restaurants in New York City.

Data from the Institut national de santé publique (INSP) for the year 2005 shows that only 35% of adult men and 53% of adult women eat five daily portions of fruit and vegetables.[12] The figures for children aged 16 and under are also worrying.

In 2004, 57% of Quebec's population had a weight problem (35% were overweight, 22% obese)[13] due to poor diet, combined with an inactive lifestyle. Weight-related illnesses (diabetes, high blood pressure, heart disease) are increasingly prevalent. The direct health care costs associated with obesity were estimated at $1.6 billion in 2001, and the indirect costs at $2.7 billion.[7]

The UN Food and Agriculture Organization recommends a reduction of the individual daily energy intake of fats, sugar and salt.[7] The availability and affordability of high-quality products, especially fruit and vegetables, is paramount in achieving this goal.

Because many people eat outside the home, the hotel, restaurant and institutional (HRI) sector is increasingly involved in this issue. Many people question the nutritional quality of certain meals, stressing the importance of offering healthy choices and reducing portion sizes. Daycare centres and schools, too, are now being encouraged to improve their menus. Culinary schools have also been asked to make a contribution by adjusting their programs.

It is generally agreed that current information and education measures are not sufficient. Action must also be taken with the food environment: the agri-food industry, producers, processors and distributors all play a determining role in supplying high-quality products and, therefore, in ensuring public health.

The World Health Organization (WHO) believes agricultural and economic policies can also be used to promote the supply of safer, more nutritious and more affordable food. In the view of the WHO, a key element in the fight against obesity and chronic illness is the ability of a government to establish a strong partnership with its agri-food industry.[7]

The Commission wishes to receive opinions and comments on the following questions:

- **What role do consumers, processors, distributors and the State play in improving healthy eating patterns?**
- **Is the available information on the nutritional value of food products sufficient and adequate?**
- **What can agriculture and agri-food policies do to promote better eating habits?**
- **What can be done to ensure that consumers are informed in a straight-forward, credible and coherent manner?**
- **How can agri-food policies support the HRI sector to do more to encourage healthy eating habits?**

HEALTH OF HUMAN RESOURCES IN THE AGRICULTURE AND AGRI-FOOD SECTOR

The health of workers in the agriculture and agri-food sector is another issue that requires examination.

A recent survey of the psychological health of farmers found that one respondent out of two (50.9%) had a high level of psychological distress, compared to 20.1% for Quebecers as a whole. More than one out of 20 farmers had suicidal tendencies, compared to one person out of 25 in the general population.[14]

In addition to financial worries, a number of other factors affect the psychological health of Quebec farmers. They include regulatory requirements, market instability, animal sickness, workloads, worldwide competition and climate change.

The agriculture sector also presents a high risk of work-related accidents. Agriculture ranks as the third most dangerous industry in Canada. The Canadian Agricultural Injury Surveillance Program reports that in Canada, between 1990 and 2003, 1,547 people died as a result of a work-related injury.[15]

In addition, the Commission de la santé et de la sécurité du travail (CSST, the Quebec workplace health and safety board) reports that, in 2002, the food and beverage sector had an injury rate 92% higher than the average for other sectors of activity.[16]

The Commission would like to receive opinions concerning the health of farmers, farm workers and food processing workers:

- **What measures would ensure better protection for the physical and mental health of human resources in the agriculture and agri-food sector?**

9 Rural life and regional development

Agriculture and rural life in Quebec have always been closely linked.

AGRICULTURE AND RURAL LIFE

Presently, 1,023 out of 1,262 municipalities in Quebec are considered to be rural municipalities, with fewer than 5,000 inhabitants. They are home to slightly over 1.3 million people, and cover 80% of the inhabited land mass.[1] It is important to note that 252 municipalities in Quebec have fewer than 500 inhabitants, and the rural landscape is characterized by its low population density.[2]

Data compiled by the Institut de la statistique du Quebec show that Quebec's rural population is decreasing.[3] Between 1996 and 2005, 53% of all rural municipalities lost a total of 61,000 inhabitants.[4]

An ageing population and the exodus of young people to major urban centres are both recognized phenomena. For the time being, the growing attraction of urbanites to rural communities has not been sufficient to reverse the falling demographic curve.

The current situation has led to a growing debate about ways to ensure the dynamic occupation of Quebec's territory. Maintaining the critical population mass required to ensure the viability of public and private services is another issue. The indicators published in 2005 by the Ministère du Développement économique, de l'Innovation et de l'Exportation show that the problem of economic disparity is increasingly affecting outlying and resource-based regions.[5]

The State has introduced regional development policies in the economic and social fields. The Quebec government's National Policy on Rurality, recently updated and extended until 2014, targets rural communities. Its key element is the signing of rural partnership agreements with regional county municipalities (known as MRCs). Under the agreements, the government and elected municipal officials in rural areas make a joint commitment to support projects that will ensure the ongoing viability of rural communities.

Agriculture, too, has undergone a series of far-reaching changes in recent decades. Farm specialization and increased size has led to a reduction in the number of farms and the size of the agricultural workforce.

Data from Statistics Canada show that the agricultural population fell by 26% between 1991 and 2001, and now accounts for only 6.4% of the rural population and 1.3% of the total Quebec population.[6]

Problems connected with the transfer of farms to the younger generation and access to the farming profession have been cited, along with the growing difficulty of recruiting workers.

For many observers, the long-term vitality of rural communities depends on the diversification of the regional economy: agriculture, forestry and natural resource extraction must be part of a more varied economic base that includes service and processing activities, as well as a dynamic recreation and tourism industry.

It is clear that the modern agriculture and agri-food sector still plays a vital role in regional economies. MAPAQ's 2005 agri-food profile states that agriculture still accounts for 10% of employment in 13 of Quebec's 17 administrative regions.[7]

In addition, other jobs are provided by food processing and distribution companies. Many jobs linked to agriculture are also found in a range of sectors including agricultural inputs, transportation, machinery sales and maintenance, veterinary services, advisory and consultancy services, construction, financing, and public service.

The agriculture and agri-food sector is an important asset for Quebec's regions and rural communities. It provides employment for many rural families. It is vitally important to identify the conditions and strategies required to ensure that the agriculture and agri-food sector contributes as effectively as possible to the vitality and ongoing viability of rural communities.

The Commission wishes to receive opinions and comments concerning the following questions:

- **How can agricultural policies support a form of agriculture that will contribute more to rural development?**
- **How should regional agriculture and agri-food potential be taken into consideration in the design of public policies?**
- **What opportunities are offered by modern agriculture?**
- **What should be done to ensure a better response to the problem of transferring farm ownership from one generation to the next, and to help young people see a future in the agriculture and agri-food sector?**

RECONCILING LAND USES

Members of the general public, whether living in an urban or rural setting, are increasingly concerned about environmental protection and quality of life. They want their concerns to be a focus of development, and they want to be consulted on this issue.

There have been several recent conflicts concerning land use and social acceptability, mainly connected with pork production. Although there are many underlying factors in these conflicts, most people would agree that it is not usually livestock production itself that is questioned, but rather certain specific practices and the way in which new facilities are positioned in the community.

Since 1997, municipalities have been responsible for reconciling agricultural and non-agricultural activities via the land use and planning tools available to them.[8] Although local authorities have been asked to seek a consensus between farmers, elected officials and the non-agricultural population, several have realized that a balanced approach will require a more open and responsible attitude on the part of agricultural operations, along with adapted practices and methods, and a constant search for new solutions that allow enterprises to remain competitive.

At the opposite end of the spectrum, the development of other types of activity in agricultural areas has also generated friction. Examples include extension of residential, commercial or industrial usage in agricultural zones, the construction of isolated dwellings in agricultural zones, and other land uses that have an impact on agricultural land such as hiking, ATV and snowmobile trails, power transmission lines, oil pipelines, wind farms, new roads, etc.

In 1978, to ensure adequate protection for productive farm land in Quebec, the Government passed the *Act to preserve agricultural land*. The amendments made to the Act over the last ten years have extended its scope, and it is now known as the *Act to preserve agricultural land and agricultural activities* (APALAP).[9]

The Commission de protection du territoire agricole du Québec (CPTAQ, the Quebec farm land protection commission) manages applications for the authorization of non-agricultural activities in agricultural zones. It faces two main challenges, namely the pressure of urban development on agricultural land adjacent to urban centres, and the introduction of non-agricultural (mainly residential) uses in rural areas.

Although the type of pressure on agricultural land is not the same in all communities, few people question the relevance and usefulness of the APALAP. However, some believe it does not always take regional particularities into account, while others suggest that by protecting the agricultural vocation of land with low production potential it can actually hinder the revitalization of rural areas in some regions.

Representatives of the farming community, in turn, point out that less than 2% of Quebec's land mass is suitable for agriculture, and that this land must be protected.[10]

An increasing number of rural communities must manage the problem of reconciling agricultural and non-agricultural activities.

- **What steps should be taken to reconcile different land uses in rural areas?**
- **What should be the role of each player: the CPTAQ, municipalities, the Quebec government and its departments and bodies, and other stakeholders?**
- **Is the CPTAQ using the right management framework and methods?**

NEW DEVELOPMENT PROSPECTS

New prospects for agri-food development offer potential for local and regional development.

Some countries have introduced the concept of multifunctionality to measure the role played by agriculture and its contribution to collective wealth. This requires an examination of the institutional mechanisms, market mechanisms and agricultural policies used to promote a balance between the different functions of agriculture: food production, land use, stimulation of rural communities and maintenance of the collective heritage.[11]

Some interesting prospects for non-traditional crops, or crops intended for use in biotechnology, have been proposed. Other suggestions include the development of smaller-scale agriculture, part-time agriculture, or the creation of small agricultural companies supported by the community.

Organic agriculture and other "alternative" approaches are often proposed as a way of meeting social and environmental concerns and responding to the new needs of growing numbers of consumers. However, it has also been suggested that the potential market is not large enough to encourage farmers to make the switch.

The promotion of local and artisan products, as well as agri-tourism have also been suggested as ways of diversifying the income of farms and rural communities. Some people have suggested that the marketing of rural products should be supported by the creation of a network of dedicated farms, and by locally-based processing. Larger-scale production of rural products could be conducive to local processing and marketing, or direct farm sales. The creation of alternative distribution networks for rural products is another solution that is being considered.

The Commission would like to receive opinions and comments on the following questions:

- **How can food processing companies be encouraged to settle, remain and develop in Quebec's regions?**
- **How can the growth and financial viability of new types of production be assured?**
- **How can sufficient outlets be found for new products, how can they be made profitable, and how can they make a dynamic contribution to rural communities?**

10 Governance

The agriculture and agri-food sector includes a large number of players from the government, private, union, cooperative and volunteer communities, whose powers and responsibilities are often exclusive to Quebec.

The federal and provincial governments, local and regional authorities, La Financière agricole du Québec (FADQ) and the Union des producteurs agricoles du Québec (UPA) and cooperatives all play a key role in the governance of the agriculture and agri-food sector.

AGRICULTURE AND AGRI-FOOD CANADA

Under the *Constitution Act*, both the federal and provincial governments have the power to pass legislation concerning agriculture. However, the Act also states the primacy of federal legislation.[1]

The actions of Agriculture and Agri-food Canada are based on a pan-Canadian vision of sector development. One recent example is the Agricultural Policy Framework (APF) that has been in force since 2003. It focuses on five complementary elements: business risk management, the environment, food safety and quality, renewal, and science and technology.[2]

The actions of the federal government concern agri-food trade policy, trade agreements and negotiations, the promotion of exports from Canada and Quebec, food safety, food product traceability, quality assurance and food inspection, through the Canadian Food Inspection Agency (CFIA). Finally, the federal government contributes to the stabilization of farm revenues (CAIS) and the management of farm cash flow through the advance payment program.

In Quebec, one of the key issues connected with the negotiation and implementation of the AFP is Quebec's scope for autonomous action and the recognition of its programs. Some people have questioned the overly rigid nature of Canadian policies and would like to see them take more account of Quebec's unique situation, problems, orientations and institutional structures.

THE MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC

The mission of the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation du Québec (MAPAQ) is to ensure the growth of Quebec's agri-food industry with a view to sustainable development.[3] In pursuit of its mission, it takes action through its programs and policies in all sectors: production, processing, distribution, marketing and the consumption of agriculture and agri-food products and services. It is also active in the field of the agri-environment.

Three government bodies come under MAPAQ's authority, namely La Financière agricole du Québec, the Régie des marchés agricoles et alimentaires du Québec (RMAAQ) and the Commission de protection du territoire agricole du Québec (CPTAQ).[4]

The overly narrow economic focus of MAPAQ and the lack of attention paid to rural matters in its mission statement are a disappointment to some people. In some European countries, and in other Canadian provinces, the department of agriculture is responsible for a broader rural vision, often via a rural policy. In Quebec, responsibility for rural matters is currently entrusted to the Ministère des Affaires municipales et des Régions (MAMR). Another aspiration is that MAPAQ take more action in the field of nutrition.

REGIONAL AND LOCAL AUTHORITIES

Quebec's regional county municipalities (MRCs) and municipalities, through their powers and responsibilities in the area of land use planning, play a role in the expansion and supervision of agriculture and agri-food activities. The actions taken by MRCs and municipalities are defined by provincial legislation and guidelines.

Municipalities are legally required to give priority to agriculture as the primary land use in agricultural zones, and to ensure the harmonious co-habitation of agricultural and non-agricultural land uses.[5] The actions of elected municipal officials are structured by government land use guidelines, and their conformity must be approved by the Minister of Municipal Affairs and Regions after consulting with the other government departments concerned. [6] MRCs and municipalities are empowered to file applications to exclude land from an agricultural zone with the CPTAQ.[7]

Quebec's municipalities also exercise environmental responsibilities that have repercussions on agriculture, including the protection of lakeshores, riverbanks, coastal zones and floodplains, the determination and enforcement of protection perimeters around groundwater intakes for human consumption, and the treatment of sewage from individual dwellings.

LA FINANCIÈRE AGRICOLE DU QUÉBEC

In Quebec, financial assistance for farmers is mainly provided by La Financière agricole du Québec (FADQ), a state-owned enterprise that resulted from the 2001 merger of the Régie des assurances agricoles du Québec and the Société de financement agricole (SFA).[8]

It has been pointed out that the composition of the FADQ board of directors does not comply with the rules of governance set out in the policy on the governance of state-owned enterprises introduced by the Quebec government in 2006.[9] The rules, designed to ensure the independence of boards of directors, stipulate that two-thirds of the members, including the chair, must meet certain criteria designed to ensure their independence. The purpose of this is to ensure that they have no relationships or interests likely to interfere with the quality of their decisions. Since the amounts paid to agricultural operations come mainly from public funding, the large number of board members representing the Union des producteurs agricoles du Quebec – five out of 11 – has been called into question.

La Financière agricole du Québec provides income protection, crop insurance and agricultural financing services for farms, adjusted to the types of risks they encounter. It administers insured values of almost $4 billion, and its portfolio of secured loans totals over $4 billion. The assets of the Fonds d'assurance-prêts agricoles et forestiers (farm and forest loan insurance fund) amount to more than $120 million. [10]

THE UNION DES PRODUCTEURS AGRICOLES

The Union des producteurs agricoles (UPA) is the only association certified under Quebec's *Farm Producers Act*,[11] a fact that confers a number of special responsibilities such as speaking on behalf of Quebec's farmers and representing them in dealings with public authorities. The UPA is made up of 155 local syndicates, 16 regional federations, 222 specialized syndicates and 25 specialized federations. Its members are classified according to their region and type of production. [12]

Under the *Farm Producers Act*, no farm producer is obliged to join the UPA, but all must pay a membership fee. As the sole certified association it can establish, levy, receive and redistribute the fees of all farm producers even if they are not members of the association. [11]

Compulsory assessment fees also exist in Ontario. However, farm producers can choose to pay them to the agricultural association of their choice from a designated list. In the United States, France and other countries, there are no compulsory assessments paid to agricultural associations.

The Government has made the UPA into a genuine partner by giving it responsibilities in the management of La Financière agricole and the marketing system supervised by the Régie des marchés agricoles et alimentaires.

COOPERATIVES

Agricultural cooperatives are important players in the agriculture and agri-food sectors. They play a primordial role in regional development.

For example, the Coop fédérée du Québec brings together 62,000 members from over 100 agricultural cooperatives. Its mission consists of providing supplies and inputs for farming operations as well as processing and marketing their produce on local and international markets.

The Coop fédérée is the 4th largest enterprise in Quebec by revenue and the 7th largest by number of employees.[13]

The Commission would like to receive opinions and comments on the following questions:

- **The Commission would like to receive opinions and comments on the following questiWhat do you think about the current balance between the roles and powers of the various players?**
- **Do Canadian policies pay enough attention to Quebec's particularities, problems, orientations and structures?**
- **Should the mission and policies of MAPAQ be extended to include concerns and objectives relating to rural matters, the environment and nutrition?**
- **How do you see the future for cooperatives?**

How to participate

COMMITMENT OF THE COMMISSION

The Commission is systematically seeking the comments and opinions of individuals and groups concerned by the matters that it is looking in to. It has set up a simple, transparent and rigorous consultation process that is accessible to citizens in every region and community in Quebec. The Commission will take the results of the consultation process into account when formulating its recommendations to the government. It guarantees a transparent, public approach, and has adopted a code of ethics and a public consultation policy that are publicly available.

REGIONAL PUBLIC HEARINGS

The regional public hearings will be held from February to May, 2007. The Commission will travel to 15 regions and 26 municipalities. In each region, the schedule will be adjusted to fit the number of individuals and groups who apply to be heard. In general, the Commission expects to sit in each region for two to three days.

The exact date, time and venue of the public hearing in each city will be announced in the regional media and on the Commission’s website.

REGIONS	CITY	WEEK OF
Mauricie	Trois-Rivières	February 12
Centre-du-Québec	Nicolet	February 19
	Victoriaville	
Chaudière-Appalaches	Saint-Agapit	February 26
	Saint-Joseph-de-Beauce	
	Montmagny	
Montérégie	Sallaberry-de-Valleyfield	March 5
	Saint-Jean	
	Saint-Hyacinthe	
Bas-Saint-Laurent	La Pocatière	March 12
	Notre-Dame-du-Lac	
	Rimouski	
Outaouais	Gatineau	March 19
Lanaudière	Joliette	April 2
Capitale-Nationale	Baie-Saint-Paul	April 9
	Pont-Rouge	
Laurentides	Lachute	April 16
Laval	Laval	April 23
Estrie	Sherbrooke	April 30
Abitibi-Témiscamingue	La Sarre	May 7
	Ville-Marie	
Saguenay–Lac-Saint-Jean	Alma	May 14
	Ville de Saguenay	
Côte-Nord	Les Escoumins	May 21
Gaspésie–Îles-de-la-Madeleine	Bonaventure	May 28
	Îles-de-la-Madeleine	

This schedule is subject to change. Consult the Commission's website to obtain the most up to date information.

Any individual, group or organization with an interest in the future of agriculture and the agri-food sector in Quebec is invited to submit a brief.

Individuals and organizations submitting briefs will be asked to present them to the commissioners at a public hearing. A period of 20 minutes will be allotted for each presentation and the ensuing discussion. Participants will be asked to present a summary of their brief. Priority will be given to discussion. The commissioners may increase or decrease the time reserved for presentations and discussions to facilitate the hearing process.

The commissioners will read and analyze all briefs received before the hearing. In addition, all briefs, including those submitted by individuals and groups that decide not to present them at the hearings, will be made available on the Commission's website. The commissioners will consider all briefs with the same attention, whether or not they are presented at a public hearing.

To facilitate the logistics of each hearing, individuals or groups wishing to make a presentation, whether or not supported by a written brief, must register and file their brief, if any, at the Commission's office not later than Monday of the week preceding the week during which the regional public hearing is scheduled.

To register, please contact the Commission by e-mail, phone or fax.

E-mail: **info@caaaq.gouv.qc.ca**
Phone: **418 646-1049**
Fax: **418 646-1051**

- your name;
- the name of the organization you represent, if any;
- your contact information; and
- the city where you would like to attend a hearing.

For presentations not supported by a written brief, a short description of the presentation must be provided when registering with the Commission.

The Commission is especially interested in receiving comments on the topics dealt with in this documents but will not necessarily limit itself to these topics.

Each brief submitted to the Commission must be worded in a way that remains respectful of other participants. In other words, it must not infringe on the dignity, honour, reputation or privacy of any other person.

Since the briefs will be made public, in particular on the Commission's website, it is important to include only information that supports the arguments presented and identifies the person or organization signing the brief. Personal information, such as an address and phone number, should be placed on a separate page.

The Commission asks participants to be concise. If your brief has over 15 pages you should provide a summary of not more than three pages. Complementary information and a presentation of the organization involved, if applicable, should be included as an appendix.

As far as possible, briefs should be forwarded to the Commission by e-mail (info@caaaq.gouv.qc.ca), in French or English, in PDF, Word or PowerPoint format.

Briefs may also be forwarded by mail, along with an electronic file if available, to the following address:

Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois
1150, Grande Allée Ouest, 1er étage
Québec (Québec) G1S 1E5

ROUNDTABLE DISCUSSIONS

To examine the themes in more depth, the Commission will organize roundtable discussions on specific issues connected with its mandate. Participation in the roundtable discussions will be by invitation only. The discussions will take place in public and will be webcast on the Commission's website.

THEME	VENUE	WEEK OF
Quality of life: the aspirations and realities of farm families	Victoriaville	February 19
Bio-energy, fibre, medications: new opportunities in agriculture	Saint-Hyacinthe	March 5
Establishment in farming: new ways of getting started	Rimouski	March 12
Environmental protection: priority approaches	Joliette	April 2
Building renewed rural communities – together	Sherbrooke	April 30
Agriculture and dynamic regions: making use of our particular strengths	Alma	May 14
Agri-food and the concerns of consumers: a dialogue to build upon	Montréal	June 18

PROVINCIAL PUBLIC HEARINGS

To accommodate participants with province-wide interests, the Commission will organize two public hearings in Quebec City and Montréal in June 2007. Participation by individuals and groups will be by invitation only. Briefs dealing mainly with agriculture will be heard in Quebec City, while those dealing mainly with processing and consumption will be heard in Montréal.

These hearings will be preceded or followed by sessions open to the public-at-large of the regions in question.

Participants must file their briefs at the Commission's office no later than Friday, June 1, using the procedure described above for regional public hearings.

A 40-minute period will be reserved for each presentation and the ensuing discussion; the presentation of the brief itself should last no longer than 20 minutes.

WEBSITE

The address of the Commission's website is: **www.caaaq.gouv.qc.ca.**

- The website provides a detailed schedule of public activities.
- Public hearings and roundtable discussions will be webcast live.
- Audio files will be available for later listening.
- A section of the website will be reserved for the opinions and comments received from members of the general public by mail or e-mail. The Commission reserves the right not to post comments that infringe on the dignity, honour, reputation or privacy of any person.
- Data and documents will be made available on-line to facilitate debate.
- All documents and briefs filed with the Commission may be accessed on-line.
- A newsletter will be published, informing subscribers of the Commission's activities.

References

Chapter 1:
The food requirements of the population

1. STATISTICS CANADA, *Survey of Household Spending,* December 12, 2005, no. 3508.

2. INSTITUT DE LA STATISTIQUE DU QUÉBEC, Gouvernement du Québec, *Perspectives de la population, édition 2003.*

3. INSTITUT DE LA STATISTIQUE DU QUÉBEC, Gouvernement du Québec, "Si la tendance se maintient… ", *Perspectives démographiques, Québec et régions, 2001-2051, édition 2003,* November 2004.

4. LABRECQUE, J., *Les comportements des consommateurs: quelques tendances,* Montréal, HEC, March 2005.

5. UNITED NATIONS FOOD AND AGRICULTURE ORGANIZATION (FAO), *World agriculture: towards 2015/2030,* Summary report, 2002.

6. ORGANIZATION FOR ECONOMIC COOPERATION AND DEVELOPMENT (OECD) and UNITED NATIONS FOOD AND AGRICULTURE ORGANIZATION (FAO), *OECD-FAO Agricultural Outlook, 2006-2015,* OECD publications.

7. JONES, Timothy W., "How much goes where? The corner on food loss", in *Biocycle,* July 2005, p. 2.

Chapter 2:
Agricultural production

1. Valacta. *Rapport de production.*

2. Compilation by the Centre de développement du porc du Québec. *Gestion et exploitation des données, 2005*.

3. AGRICULTURE AND AGRI-FOOD CANADA, *Farm Income, Financial Conditions and Government Assistance*, September 2005 and STATISTICS CANADA, *Quarterly financial statistics for enterprises*, second quarter, 2006.

4. AGRICULTURE AND AGRI-FOOD CANADA, *Farm Income, Financial Conditions and Government Assistance,* Table A.3, September 2005.

5. STATISTICS CANADA, *Balance Sheet of the Agricultural Sector*, Table 21-016-XWF, June 2006.

6. STATISTICS CANADA, *National Balance Sheet Accounts*, 4th quarter, 2005.

7. OECD, OECD Observer, *Farm Household Income: Issues and Policy Responses*, october 2004.

8. STATISTICS CANADA, *Statistics on income of farm families*, *2001 Census,* and catalogue 21-207-XIF, Tables 023 and 018.

9. US DEPARTMENT OF AGRICULTURE, Economic Research Service, *Income, Wealth, and the Economic Well-Being of Farm Households*, AER-812, Table 2, July 2002.

10. STATISTICS CANADA, *Balance Sheet of the Agricultural Sector on December 31, 2005*, Table 1-25, June 2006.

11. AGRICULTURE AND AGRI-FOOD CANADA, *Farm Income, Financial Conditions and Government Assistance*, September 2005 and STATISTICS CANADA, *Quarterly financial statistics for enterprises*, second quarter, 2006.

12. GOUIN, Daniel-Mercier, *La gestion de l'offre dans le secteur laitier, un mode de régulation toujours pertinent*, Groupe de recherche en économie et politique agricoles (GREPA), Université Laval, September 2004, excerpt and partial update, May 2006.

13. LA FINANCIÈRE AGRICOLE DU QUÉBEC. *Rapport annuel 2005-2006*.

14. UNITED NATIONS FOOD AND AGRICULTURE ORGANIZATION (FAO), *World agriculture: towards 2015/2030,* Summary report, 2002.

Chapter 3:
Food processing

1. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION, *L'activité bioalimentaire au Québec - Bilan 2005,* 2006.

2. CONFERENCE BOARD OF CANADA, *Compilation for Agriculture and Agri-Food Canada,* 2003.

3. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION, "L'industrie des aliments et boissons: un stabilisateur économique", *Bioclips,* Vol. 6 no. 1, June 2003.

4. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION, *Profil - industrie de la transformation alimentaire au Québec,* 02-0076.

5. FILIÈRE AGROALIMENTAIRE DU QUÉBEC, *Diagnostic du secteur agroalimentaire et de l'approche filière du Québec*, May 5, 2004, Groupe de travail de la Filière agroalimentaire sur le plan d'action 2004-2007.

Chapter 4:
Distribution of food produce

1. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION. *Information générale sur le secteur bioalimentaire*, 2005.

2. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION. *L'activité bioalimentaire au Québec - Bilan 2005, 2006*, 43 p.

3. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION. *Bottin statistique de l'alimentation, édition 2006*, 141 p.

4. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION. *Réunion des cadres du Ministère*, Québec, November 9, 2006.

5. AC Nielsen. *The power of private label 2005 : a review of growth trends around the world.*

6. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION. *Rapport annuel de gestion 2004-2005*, 2005.

Chapter 5:
Foreign trade in agricultural and agri-food products

1. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION, *Conférence sur l'agriculture et l'agroalimentaire québécois*, reference document, 1998, update of the tables and graphs from a 1998 reference document, November 2006, and STATISTICS CANADA, *International trade statistics*, 2004, and MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC, *Activité bioalimentaire au Québec – bilan 2005*, 2006 edition.

2. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION. *Valeur des exportations et des importations internationales de produits bioalimentaires, Québec, 2001-2006*, December 2006.

3. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION. *L'industrie bioalimentaire du Québec,* 2005.

4. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION. *Conférence aux cadres du Ministère sur l'agriculture et l'agroalimentaire québécois*, Québec, November 9, 2006.

5. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION. *Bottin statistique de l'alimentation, édition 2006*.

6. BANK OF CANADA.

7. INSTITUT DE LA STATISTIQUE DU QUÉBEC, *Exportation des principaux produits*, September 2006 and STATISTICS CANADA, *The Daily,* November 24, 2006.

8. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION. *Bottin statistique de l'alimentation,* 2006 edition.

9. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION, *Conférence sur l'agriculture et l'agroalimentaire québécois,* reference document, 1998, update of the tables and graphs from a 1998 reference document, November 2006.

Chapter 6: Human resource development

1. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. Programmes du secondaire, [on line] www.mapaq.gouv.qc.ca/Fr/Productions/md/formation/

2. Institut de technologie agroalimentaire. *Cultiver ton avenir! Rapport annuel 2004-2005*, 2005, Service des communications.

3. Données de l'Institut de tourisme et d'hôtellerie du Québec (ITHQ), 2006.

4. MINISTÈRE DE L'ÉDUCATION, DU LOISIR ET DU SPORT. *Évolution des inscriptions en 1ère année à l'enseignement secondaire et collégial, 1999-2003. Production animale et végétale*, [[on line]] www.mapaq.gouv.qc.ca/Fr/Productions/md/formation/formationstatistiques/inscription/

5. MINISTÈRE DE L'ÉDUCATION, DU LOISIR ET DU SPORT. *Données d'établissement (déclaration des clientèles au 20 septembre pour 2004, 2005 et 2006)*, Direction de la recherche, des statistiques et des indicateurs.

6. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. *Conférence sur l'agriculture et l'agroalimentaire québécois.* Update of the tables and graphs from a 1998 reference document, November 2006.

7. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. *Les diplômés universitaires en agroalimentaire. Tendance 1991-2001*, l'innovation technologique en agroalimentaire, 2003.

8. MINISTÈRE DE L'EMPLOI ET DE LA SOLIDARITÉ SOCIALE. *Vue d'ensemble agriculture et pêches*, information sur le marché du travail, [on line] imt.emploiquebec.net/mtg/inter/noncache/contenu/asp/mtg322_vueensmblsect_01.asp?lang=FRAN&Porte=3&typesect=listesect&asect=3&cregn=QC&listsect=3&sregns=QC&PT1=8&PT2=17&PT3=12&sec=01&cmpregn=QC

9. Groupe AGECO, *La rareté de la main-d'œuvre agricole: une analyse économique,* survey prepared for the sectoral farming manpower committee, 2003.

10. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. *Des actions pour le présent. Une vision pour l'avenir. Rapport annuel de gestion 2004-2005*, 2005.

11. Centre de référence en agriculture et agroalimentaire du Québec. *Rapport annuel 2005*.

12. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. *Entente sur les services-conseils aux entreprises agricoles : le ministre M. Laurent Lessard et le président de l'UPA, M. Laurent Pellerin, signent une entente favorisant l'accès aux services-conseils*, press release, November 11, 2005.

Chapter 7: Agriculture, agri-food and the environment

1. STATISTICS CANADA, *Total area of farms, land tenure and land in crops, by province (1981-2001 Censuses of Agriculture)*, Government of Canada, 2001, www40.statcan.ca/102/cst01/agrc25f_f.htm

2. BUREAU DES AUDIENCES PUBLIQUES SUR L'ENVIRONNEMENT. Consultation publique sur le développement durable de la production porcine au Québec - Rapport principal - *L'inscription de la production porcine dans le développement durable*, gouvernement du Québec, 2003.

3. MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS, *Québec Water Policy,* Gouvernement du Québec, 2002.

4. MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS. *Portrait global de la qualité de l'eau des principales rivières du Québec*, Gouvernement du Québec, 2005, www.mddep.gouv.qc.ca/chronique/ 2005/janvier-mars/050124-portrait.htm

5. MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS. *Synthèse des informations environnementales disponibles en matière agricole au Québec*, Gouvernement du Québec, 2003.

6. MINISTÈRES DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS, *Liste des milieux affectés par les cyanobactéries*, Direction du suivi de l'état de l'environnement, Gouvernement du Québec, 2006.

7. BLAIS, S. « La problématique des cyanobactéries (algues bleu-vert) à la baie de Missisquoi en 2001 », Agrosol, vol. 13, nº 2, 2002, p. 103-110.

8. MINISTÈRES DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS; DE LA SANTÉ ET DES SERVICES SOCIAUX; DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION et INSTITUT NATIONAL DE SANTÉ PUBLIQUE DU QUÉBEC. *Étude sur la qualité de l'eau potable dans sept bassins versants en surplus de fumier et impacts potentiels sur la santé*, Gouvernement du Québec, 2004, 9 volumes.

9. BPR. *Suivi 2003 du portrait agroenvironnemental des fermes du Québec*, outil d'aide à l'identification des enjeux prioritaires et des pistes d'action, 2005.

10. MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS. *Capacité de support des activités agricoles par les rivières : le cas du phosphore total*, Gouvernement du Québec, 2005.

11. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. Institut de recherche et de développement en agroenvironnement, *Description statistique des propriétés chimiques des sols minéraux du Québec*, 2005.

12. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. *Inventaire des problèmes de dégradation des sols agricoles du Québec*, Gouvernement du Québec, 1990,13 volumes.

13. MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS. *Inventaire québécois des émissions de gaz à effet de serre en 2003 et évolution depuis 1990*, Gouvernement du Québec, 2006, mddep.gouv.qc.ca/ changements/ges/2003/index.htm

14. BPR. *Suivi 2003 du Portrait agroenvironnemental des fermes du Québec*, rapport final, 2005.

15. BÉLANGER, L., M. GRENIER, S. DESLANDES and D. BOSSÉ, *Conservation Atlas of Woodlands in the Agricultural Landscape,* Environment Canada, Canadian Wildlife Service, 1998, www.qc.ec.gc.ca/faune/ atlas/html/atlas_f.html

16. OGM.gouv.qc.ca. Information source on genetically modified organisms, Gouvernement du Québec, 2006, www.ogm.gouv.qc.ca/

17. MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS. *Règlement sur les exploitations agricoles*, Gouvernement du Québec, 2002.

18. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. *Rapport annuel de gestion*, Gouvernement du Québec, 2006.

19. STATISTICS CANADA, *VISTA on the Agri-food Industry and the Farm Community, Partial portrait of farm investments in environmental protection*, Government of Canada, 2004.

Chapter 8:
Health and consumer concerns

1. STATISTICS CANADA, *Life expectancy*, Government of Canada, 2000.

2. MINISTÈRE DE L'AGRICULTURE DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. *Rapport annuel de gestion*, Gouvernement du Québec, 2006.

3. David Suzuki Foundation, *The Food We Eat: An International Comparison of Pesticide Regulations*, 2006.

4. MINISTÈRE DU DÉVELOPPEMENT DURABLE, DE L'ENVIRONNEMENT ET DES PARCS, *Pesticides Management Code*, Gouvernement du Québec, 2003.

5. GIROUX, I. « Source d'exposition humaine aux pesticides », *Vecteur environnement*, vol. 39, no. 3, 2006, p. 12-14.

6. Ordre des médecins veterinaries, personal communication, 2006.

7. MINISTÈRE DE LA SANTÉ ET DES SERVICES SOCIAUX. *Préoccupations du Ministère adressées à la Commission sur l'avenir de l'agriculture et de l'agroalimentaire québécois*, 2006.

8. BUREAU DES AUDIENCES PUBLIQUES SUR L'ENVIRONNE-MENT. Consultation publique sur le développement durable de la production porcine au Québec - Rapport principal - *L'inscription de la production porcine dans le développement durable*, Gouvernement du Québec, 2003.

9. OGM.gouv.qc.ca. *Source d'information sur les organismes génétiquement modifiés*, Gouvernement du Québec, 2006, www.ogm.gouv.qc.ca/

10. FILIÈRE BIOLOGIQUE DU QUÉBEC. *Plan stratégique du secteur des aliments biologiques du Québec 2004-2009*, 2003.

11. Sondage Decima Research Inc. *AGRICULTURE AND AGRI-FOOD CANADA*, [on line] www.passeportsante.net/fr/Actualites/Dossiers/ArticleComplementaire.aspx?doc=aliments_fonctionnels_pourquoi_do (viewed June 2004).

12. MINISTÈRE DE LA SANTÉ ET DES SERVICES SOCIAUX. *Investir pour l'avenir. Plan d'action gouvernemental de promotion des saines habitudes de vie et de prévention des problèmes reliés au poids, 2006-2012*, 2006.

13. MONGEAU, L., N. AUDET, J. AUBIN et R. BARALDI. *L'excès de poids dans la population québécoise de 1987 à 2003*, 2005, Institut national de la santé publique du Québec and Institut de la statistique du Québec.

14. LAFLEUR, Ginette et col. *Enquête sur la santé psychologique des producteurs agricoles du Québec*, Université de Moncton, 2006.

15. Canadian Agricultural Safety Association, *Canadian Agricultural Injury Surveillance Program*, Queen's University, 2006, 2006, meds.queensu.ca/~emresrch/ caisp/bienvenue.html

16. COMMISSION DE LA SANTÉ ET DE LA SÉCURITÉ DU TRAVAIL DU QUÉBEC. *Les travailleuses québécoises et les lésions professionnelles, où en sommes-nous*, 2006.

Chapter 9:
Rural life and regional development

1. HESNE, L. *La situation démographique au Québec. Bilan 2005*, Institut de la statistique du Québec, December 2005.

2. Solidarité rurale du Québec. *Avis pour une nouvelle Politique nationale de la ruralité*, 2006.

3. INSTITUT DE LA STATISTIQUE DU QUÉBEC. *Estimation de la population des municipalités du Québec au 1er juillet des années 1996 à 2005 selon le découpage géographique au 1er janvier 2006*, [on line] www.stat.gouv.qc.ca/donstat/societe/demographie/dons_regnl/regional/index.htm

4. INSTITUT DE LA STATISTIQUE DU QUÉBEC in Solidarité rurale du Québec. *Avis pour une nouvelle Politique nationale de la ruralité*, 2006.

5. MINISTÈRE DU DÉVELOPPEMENT ÉCONOMIQUE, DE L'INNOVATION ET DE L'EXPORTATION. « Portrait socio-économique des régions du Québec », *L'Économètre*, 2006.

6. STATISTICS CANADA, *2001 Censuses of Agriculture and Population,* [on line] www40. statcan.ca/l02/cst01/agrc42f_f.htm

7. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. *Profil régional de l'industrie bioalimentaire au Québec. Estimation pour 2005*, 2006. [on line] www.mapaq.gouv.qc.ca/Fr/md/statistiques/donneesregionales

8. MINISTÈRE DES AFFAIRES MUNICIPALES ET DES RÉGIONS. *Les orientations du gouvernement en matière d'aménagement. La protection du territoire et des activités agricoles*, revised supporting document, 2001.

9. COMMISSION DE PROTECTION DU TERRITOIRE AGRICOLE (CPTAQ). *La Commission*, [on line] www.cptaq.gouv.qc.ca/index.php?id=commission

10. Coalition pour la protection du territoire agricole. *Maintenir la pérennité agricole : une priorité*, [on line] www.upa.qc.ca/fra/coalition/index.asp

11. DEBAILLEUL, G. *Développement économique régional, tourisme et agriculture, tourisme rural*, in Téoros, Vol. 20, no. 2, summer 2001, p. 52-59.

Chapter 10:
Governance

1. GOVERNMENT OF CANADA, *Constitution Act, 1867, section 95,* [on line], laws.justice.gc.ca/en/const/c1867_e.html

2. AGRICULTURE AND AGRI-FOOD CANADA, *The Agriculture Policy Framework: An Agricultural Policy for the 21st Century,* [on line] www.agr.gc.ca/cb/apf/index_e.php

3. GOUVERNEMENT DU QUÉBEC. Act respecting the Ministère de l'Agriculture, des Pêcheries et de l'Alimentation, R.S.Q., chapter M-14, [on line] www.mapaq.gouv.qc.ca/Fr/Ministere/md/Lois/

4. MINISTÈRE DE L'AGRICULTURE, DES PÊCHERIES ET DE L'ALIMENTATION DU QUÉBEC. *Rapport annuel de gestion 2005-2006*, 2006.

5. GOUVERNEMENT DU QUÉBEC. Act to preserve agricultural land and agricultural activities, R.S.Q., chapter P-41.1.

6. MINISTÈRE DES AFFAIRES MUNICIPALES ET DES RÉGIONS. *Orientations gouvernementales en matière d'aménagement : la protection du territoire et des activités agricoles*, 2001 and addendum of 2005.

7. MINISTÈRE DES AFFAIRES MUNICIPALES ET DES RÉGIONS. *La municipalité régionale de comté : compétences et responsabilités*, 2004.

8. LA FINANCIÈRE AGRICOLE DU QUÉBEC. *Historique et mission*, [on line] www. fadq.qc.ca/index.php?id=6

9. MINISTÈRE DES FINANCES. *Moderniser la gouvernance des sociétés d'État. Énoncé de politique*, 2006.

10. LA FINANCIÈRE AGRICOLE DU QUÉBEC. *Mission*, [on line] www.fadq.qc.ca/index. php?id=6

11. GOUVERNEMENT DU QUÉBEC. Farm Producers Act, R.S.Q. chapter P-28, [on line] www2.publicationsduQuébec.gouv.qc.ca/dynamicSearch/telecharge.php?type=2&file=%2F%2FP_28%2FP28.htm

12. Union des producteurs agricoles du Québec. *Qui sommes-nous? Vue d'ensemble*, [En ligne] www.upa.qc.ca/fra/qui_sommes_nous/vue_ensemble.asp

13. ARTEAU, M., BRASSARD, M. J., MALO, M. C. *Les secteurs et le mouvement coopératif québécois : portrait et défis*, Centre de recherche sur les innovations sociales, UQAM, 2006, 17 p.

Commission sur l'avenir de l'agriculture
et de l'agroalimentaire québécois
1150, Grande Allée Ouest, 1er étage
Québec (Québec)
G1S 1E5
TÉL. : 418 646-1049
TÉLÉC. : 418 646-1051

www.caaaq.gouv.qc.ca