2001/2002 CANADIAN MAPLE PRODUCTS SITUATION AND TRENDS

Overview
How is Maple Syrup Produced?
Canadian Situation
Average Farm Prices of Maple Products
Provincial Production
Exports
Establishment Registration, Grading and Export Certification
Competition
MapleMark International Promotion
US Maple Syrup Situation
Opportunities & Challenges
Other Links
Tables

OVERVIEW

Canada is the largest producer of maple products in the world reaching $140 million in production value in 2001. Canada accounted for 83% of the world production of maple syrup while the United States accounts for the remainder. The producing provinces are Quebec with 93 % of the national production, Ontario (5%), New Brunswick (2%). Data are not available for Nova Scotia. In 2001, farm cash receipts were estimated at $140 million, down 23% from 2000.

According to the 1996 Census from Statistics Canada, about 9,500 farms (3.5% of all farms in Canada) commercially produced maple syrup, down 21% from 1981. The number of taps per farm almost doubled from 1,404 in 1981 to 2,412 in 1996 (Table 1). A recent survey done in Quebec indicates that Quebec maple establishments totalled 7,966 in 2001, up 4% from 2000 and up 14% from 1996. The number of taps in Quebec decreased to 28.1 million for the 2001 sugaring off season, down 11% from 2000 and up 36% from 1996. Many producers did not tap or reduced tap number for reasons like payment delays, low product prices and deep snow.

The last Census was in June 2001 but the data are not yet available.

HOW IS MAPLE SYRUP PRODUCED?

There are three major species of maple trees found in Canada. The main maple producing tree is the Sugar Maple (*Acer saccharum*), the other types, namely the Red Maple (*Acer rubrum*) and Silver Maple (*Acer saccharinum*), are also used for maple syrup production but their sap contains less sugar.

While these trees can be found in several areas of the world, these species find the proper climatic environment for maple sugaring mainly in the Eastern part of North America (see http://www.erable.org/ for more details).

Sugar maple trees reach a tapping size, under the best conditions, in about 40 years. A carefully tapped tree will give, drop by drop, about two to five litres of sap on a warm spring day, and could continue to provide sap for a century. During the maple sugaring season, which lasts about six weeks, an average maple tree will yield between 35 and 50 litres of sap, which will produce between one and 1.5 litres of maple syrup.

The number of taps per tree is determined according to the diameter of the tree. An average of two to four taps per tree is most common.

Maple sap is clear, slightly sweet, and has the consistency of spring water. The distinctive maple taste develops only through careful boiling. The sugar in the sap results from the production of starch during the months of May through August which is stored in the tree roots. With the melting of snow, starch turns into sugar (sucrose) which is then circulated through the tree in preparation for the growing season. As a result, sap runs intermittently from early March to mid-April, during the thawing of the ground in spring, but before the buds open on the maple trees. Good maple sap production requires warm days and cool nights below the freezing point. Maple sap normally doesn't flow during the night. Experts advise that collecting sap represents only 5% of total supplies from roots and does not damage the tree.

In some maple sugaring operations, the maple syrup production process is the same, but the equipment has changed. Modern maple farms have equipment to concentrate the sugar content of the sap (by three to four times) in order to save on heating costs and produce a lighter coloured syrup. This process is called reverse osmosis. Plastic tubes (vacuum system) have become more and more popular over the years for collecting sap and are used by more than 50% of the

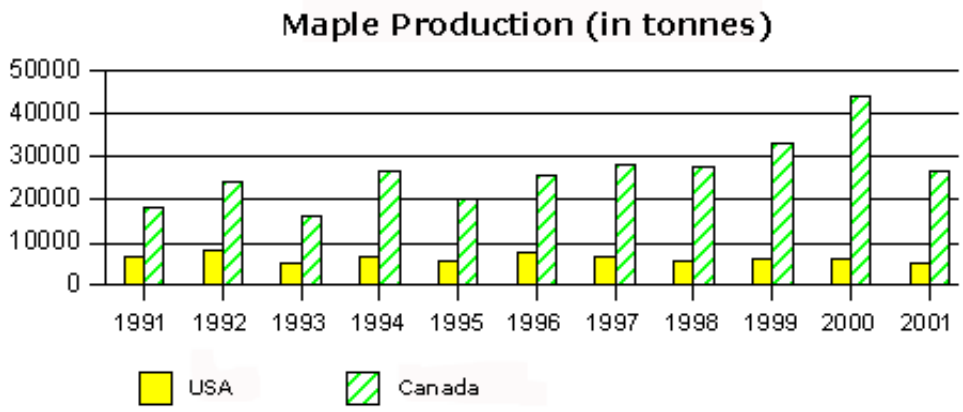
producers in Canada.

Maple Specialists recommend sanitizing maple equipment with approved disinfectants only. Many producers are using alcohol at 70% concentration to sanitize tapping equipment to prevent contamination of maple tree taps. Maple syrup is "ready" when a temperature of 104ºC (at sea level) is reached in direct relation with the amount of sugar required (66%) and colour. In order to measure all those parameters, the producer requires an hydrometer (densimeter) or a refractometer to determine sugar content and a colorimeter or a spectrophotometer to determine colour classes.

CANADIAN SITUATION

Due to poor weather conditions, the 2001 Canadian production was down 17% from the previous five year average after two consecutive record high years.

In 2001, Canadian maple syrup production was 26,610 tonnes (58.6 million lbs or 4.43 million gallons) down 40% from 2000 and down 17% from the 5 previous year average (Table 2). It was due mainly to Quebec and Ontario where a short spring resulted in less sap produced from the maple trees. Total farm value was estimated at $140 million, down 23% from 2000 and down 4% from the five previous year average. Production was down in all maple regions except New Brunswick where production increased by 5% from 2000. However, New Brunswick had recorded in 2000 the lowest production since 1991 and produced below normal crops for the last two years due unfavourable weather conditions.



Canadian production has been trending upward since the very difficult 1993 season when only 16,039 tonnes were produced.

Source: Statistics Canada and USDA-NASS

The province of Quebec leads Canadian production with sales estimated at $125.7 million in 2001 followed by Ontario at $10.8 million and New Brunswick, $3.4 million. Data are not available for Nova Scotia. With production decreasing by 40% in 2001, the Quebec maple industry has received higher prices but saw its gross value decline 22% compared to 2000.

AVERAGE FARM PRICES OF MAPLE PRODUCTS (expressed as syrup)

For the 2001 season, the average farm price paid to Quebec maple producers was $30.48 per gallon ($2.30 per pound) compared to $23.46 per gallon ($1.77 per pound) for the 2000 season. The price per gallon paid to maple producers in Ontario and New Brunswick averaged $48.76 ($3.68 per pound) and $42.99 ($3.25 per pound) respectively.

Since 1998, the *Régie des marchés agricoles et agroalimentaires du Québec* (RMAAQ) has established the prices for bulk maple syrup produced in Quebec based on the volume of production and quality.

PROVINCIAL PRODUCTION

With a production of 24,795 tonnes (54.6 million lbs or 4.13 million gallons) in 2001, Quebec is by far the largest maple producer in Canada. Most of the production is localized in the Central and Eastern part of the province. The Chaudière-Appalaches region represents 44% of total production, Estrie14%, Mauricie 11% and Bas-Saint-Laurent 11%. (Table 3). It is estimated that 62% of sugarbush operations in Quebec have 3,000 taps or more, 13% have more than 6,000 and less than 30,000 taps, while only 1.8% have more than 30,000 taps.

Ontario is the second largest maple producing province in Canada with a production of 1,334 tonnes (2.9 million lb or 221,930 gallons) concentrated in the South Western regions, mainly in Waterloo County. Lanark County in Eastern Ontario is the second major area of production in the province. Click here for the weekly report on Ontario maple sap flow.

EXPORTS

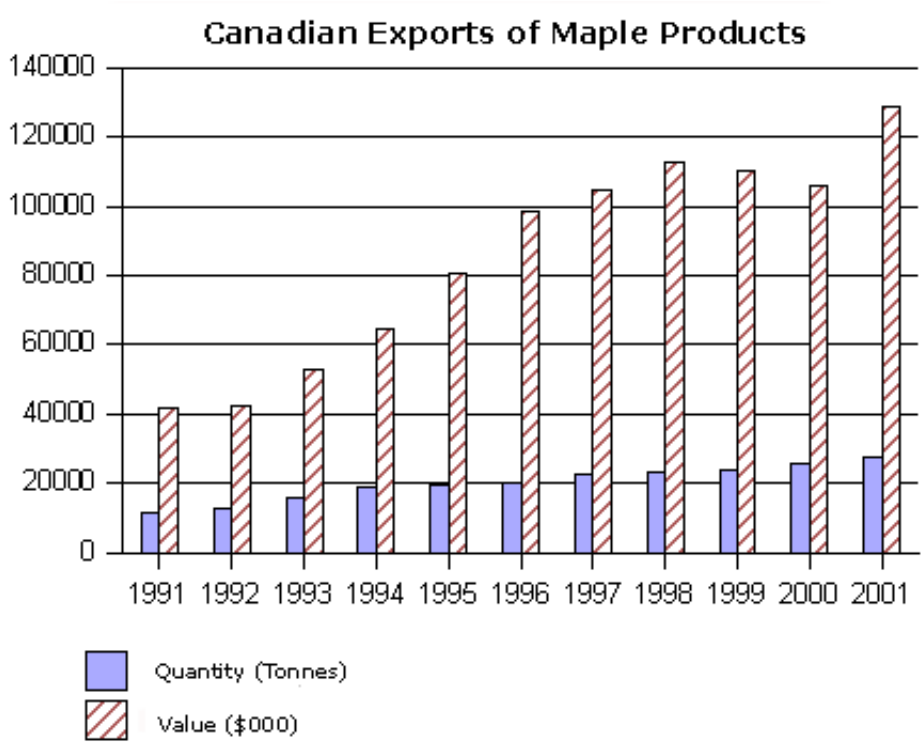
In 2001, Canada exported more than $100 million of maple products for the fifth consecutive year.

Canada is by far a net exporter of maple products and the world leader with sales to more than 30 countries. Canadian export sales have increased 11.3% per year since 1991 going from $41.7 million (11,628 tonnes) to a high of $113 million (23, 294 tonnes) in 1998, but has since decreased to $105.9 million (25,463 tonnes) in 2000. In 2001, export sales increased to $128.4 million high record, 21 % more than 2000 and 21% more than the previous five year average. (Table 4). Export prices followed the same pattern going from $3.59/kg in 1991 to a high of $4.84/kg in 1998, but have since decreased to $4.16/kg in 2000. In 2001, export sale prices at $4.64/kg were up 11% from 2000 and near the 1996-2000 average price.

Quebec remains the largest exporter of maple products in the world with 81% of total Canadian export sales at $104.0 million in 2001, followed by Ontario with 13.4% ($16.8 million) and New Brunswick, 3.8% ($4.9 million).

In 2001, exports to the United States reached $106.1 million, to the European countries, $13.2 million and to the Asian countries, $7 million. These three markets represents 81%, 10.3% and 5.4% respectively of Canadian exports (Table 5).

In the 1990's, the industry captured a number of export opportunities to increase its sales in promising markets like Asia and Europe countries largely through their increased efforts in marketing small prepacked containers to consumers. Germany ($4.5 million), France ($2.3 million) and the United Kingdom ($2.9 million) represented 74% of the total sales in Europe in 2001 compared to 72% in 2000. In Asia, Japan ($6.7 million) increased their purchases by 58% from 2000. Taiwan, more affected by the Asian crisis, improved its maple product purchase from $89,000 in 2000 to $201,000 in 2001, still down from a high of 1.52 million in 1997.



This industry contributes to Canada's value added exports since more than 60% of maple exports are now shipped in prepacked containers.

ESTABLISHMENT REGISTRATION, GRADING AND EXPORT CERTIFICATION

Maple product and registered establishment inspections are based on the *Maple Products Regulations* of the *Canada Agricultural Products Act* and are subject to registration fees.

For international or interprovincial trade, maple syrup must be graded in a registered establishment or any place where it is graded by or on behalf of the operator of a registered maple syrup shipper establishment. Since January 1st, 1999, export certificates for maple syrup in international trade are no longer mandatory.

Voluntarily registered establishments can implement the internationally recognized Hazard Analysis and Critical Control Points (HACCP) principles in their plants and obtain HACCP recognition from the Canadian Food Inspection Agency. HACCP represents a new approaching to management of chemical, physical and biological hazards in food production. Canada is a world leader in the development of prerequisite programs, HACCP systems and generic models, and their implementation in food establishments.

Canadian maple products are renowned world wide for their quality and taste. Canadian maple syrup is graded and marketed as Canada No.1 (Extra Light, Light & Medium), Canada No.2 (Amber) or Canada No.3 (dark) (Table 6). For more details on federal registration and inspection programs, consult the Canadian Food Inspection Agency web site.

COMPETITION

Maple products are in a unique class but they have to compete with other cheaper types of sugar products such as honey, sugar cane and other sweeteners. Maple products are marketed all year long and have progressed from being shipped in bulk size containers to retail size in only a few years. The industry is doing more promotion in the United States and abroad, and has set quality standards that should help penetrate new markets and renew existing markets.

In the past, maple products were often sold for use by consumers as is without any transformation, any other form of utilization or refined presentation. More recently, the industry is looking to expand their product line in the gift market and ingredient market.

MAPLEMARK INTERNATIONAL PROMOTION

In 1998, the Canadian maple industry established an export strategy to double the 1998 export figures by 2003 to $200 million and 48,000 tonnes. The five-year strategy focuses on generic promotion in targeted markets, and on the quality logo MapleMark and quality control requirements. To use this logo processor-exporters have to meet specific requirements based on HACCP principles. In 2001-2002, le RCPÉQ inc (Regroupement pour la Commercialisation des Produits de l'Érable du Québec inc) is promoting the **MapleMark** products around the world with assistance from AAFC of $822,000 under AIMS (Agri-Food Industry Market Strategy) program.

US MAPLE SYRUP SITUATION

(Values are represented in $US)

The 2001 US maple syrup production totalled 1.05 million US gallons (11.6 million lb), down 15% from 2000 (1.23 million US gallons or 13.6 million lb). The forecast value of production is $28.2 million, a decrease of 17% from 2000. USDA reported that Vermont, Maine and New York producers experienced very cold temperatures which limited good sap flow and syrup production. Temperatures were generally favourable in Connecticut, Pennsylvania, Michigan and Ohio.

Sugar content of the sap was better than the previous year as approximately 41 gallons of sap to produce one gallon of syrup compared to 46 gallons. The majority of the syrup produced was medium-amber in colour. More light syrup was produced than a year ago.

Vermont (27%), Maine (19%) and New York (18%) remain the main producers in the United States. According to the USDA, the average US gallon equivalent price[1] of all states in 2001 was estimated at $26.90 ($2.44/lb), a decrease of 3% from 1999 and from 2000. Equivalent prices varied widely across eastern states, ranging from $15.00 ($1.36/lb) in Maine to $45.00 ($4.07/lb) in Connecticut. For more details, access the USDA Web site.

1/ Average gallon equivalent price is a weighted average across retail, wholesale and bulk sales.

OPPORTUNITIES & CHALLENGES

• The Canadian maple industry is highly export oriented and plans to increase exports to $200 million (48,000 tonnes) by the year 2003 to traditional and new markets. Promotional activities are increasing abroad, mainly in Asia and Europe.

• Increased quality control at the producer level will maintain and ensure uniformity and quality of maple products. The industry is planning to enhance training of producers to ensure quality practices and products. The maple industry is developing new voluntary quality standards in consultation with various maple industry stakeholders. Promotion activities, in combination with these improved quality standards, are contributing to the maintenance and development of new markets for maple products around the world.

• The industry is looking at promoting more use of maple products by hotels, restaurants and institutions (HRI) in Canada and abroad, especially in the ingredients market.

• Maple products are considered as high value products and are subject to stiff competition from other sweeteners. The industry is exploring the possibility of promoting the nutritional value and the "pure & natural" virtues of the maple products.

• Many producers have developed extensive markets for maple products such as maple sugar, maple taffy, maple spread, and moulded soft maple sugar (soft sugar candy) which is one of the most

popular confections and offers a wide variety of packaging (eg gift pack) and marketing options.

• Maple production in Canada is currently considered to have reached about 50% of its potential and could double in certain regions of the country if more woodlands were to be transferred to maple production. In 2000, an increase of more than 15% of tapped trees has been reported by industry compared to 1999.

Other links

Statistics Canada free publication on maple statistics
Table Filière Acéricole (Export strategy in French only)
Quebec Maple Syrup Producers Federation
Ontario Maple Syrup Producers' Association
New England Agricultural Statistics Service
Maple Products Regulations
Institut Québecois de l'érable (Generic information)
Federal government programs and services
Canada's Maple Syrup Industry
North American Maple Syrup Producers Manual

Legend

MAPLE SYRUP	
1 Imperial gallon	4.546 litres or 13.248 lb or 6.023 kg
1 US gallon	3.79 litres or 11.045 lb
1 litre	1.325 kg or 2.92 lb
1 pound (lb)	0.34 litre or 0.454 kg
1 tonne (Metric Ton)	2204 lb

FCR = Value based on a "calendar year"
FGV = Value calculated on any given "crop year."

Ce rapport est aussi disponible en français.

...want more information? Contact:

Rémi Gagnon
Horticulture and Special Crops Division
Market and Industry Services Branch
Agriculture and Agri-Food Canada
2200 Walkley Road
Ottawa, Ontario K1A 0C5
Tel: (613) 759-6245
Fax: (613) 759-6312

Revised - April 2002

Table 1: Number of Canadian Maple Farms and Taps - 1996 Census

Province	1981	1986	1991	1996
Number of taps ('000)				
Canada	16,945	15,699	18,297	23,027
Quebec	N/A	14,411	N/A	20,676
New Brunswick	N/A	252	N/A	922
Ontario	N/A	877	N/A	1,127
Number of farms				
Canada	12,079	9,276	8,765	9,546
Quebec	N/A	7,419	N/A	6,997
New Brunswick	N/A	118	N/A	174
Ontario	N/A	1,649	N/A	2,240
Number of taps per farm				
Canada	1,404	1,692	2,088	2,412
Quebec	N/A	1,554	N/A	2,955
New Brunswick	N/A	2,136	N/A	5,300
Ontario	N/A	532	N/A	503

Source: Statistics Canada - 1996 Census

Table 2: Production and Value of Maple Products

Year	Quebec		Ontario		CANADA		USA	
	Tonnes	$000	Tonnes	$000	Tonnes	$000	Tonnes	US$000
1991	16,543	$48,937	1,124	$8,043	17,992	$59,064	6,589	N/A
1992	21,128	$62,076	1,803	$12,702	24,103	$82,069	8,210	N/A
1993	14,140	$48,276	1,268	$8,865	16,039	$61,053	5,038	N/A
1994	24,698	$88,070	1,334	$9,480	26,735	$102,858	6,624	N/A
1995	18,148	$79,209	1,454	$10,079	20,245	$93,324	5,483	$28,738
1996	23,009	$105,014	2,097	$15,052	25,761	$124,470	7,802	$42,169
1997	26,326	$118,034	1,370	$10,274	28,460	$133,422	6,516	$35,216
1998	25,833	$125,380	1,054	$8,285	27,796	$140,351	5,818	$32,213
1999	31,185	$134,143	1,395	$10,719	33,378	$150,304	5,954	$32,809
2000	41,313	$161,252	2,230	$17,696	43,993	$182,179	6,169	$33,924
1996-2000 average	29,593	$128,674	1,629	$12,405	31,878	$146,145	6,452	$35,266
2001	24,795	$125,746	1,334	$10,825	26,610	$139,967	p/ 5,256	p/$28,223

Source: Statistics Canada and USDA-NASS
p/ preliminary

Table 3: Producing Regions in Quebec and Ontario - 1996 Census

Regions	Number of Taps ('000)	Number of Farms	%[1]
Quebec	**20,678**	**6,997**	**100%**
Abitibi	34	15	2%
Bas-St-Laurent	2,426	415	11%
Chaudieres	9,085	3,018	44%
Estrie	3,064	865	14%
Gaspesia	43	21	0.5%
Lanaudieres	588	270	3%
Laurentides	563	243	3%
Mauricie	2,378	925	11%
Montreal	12	7	0.01%
Monteregie	1,642	764	8%
Outaouais	160	122	1%
Quebec	663	309	3%
Saguenay	20	23	0.01%
Ontario	**1,129**	**2,240**	**100%**
Central	197	481	17%
Eastern	302	522	27%
Northern	85	91	8%
Southern	116	248	10%
Western	429	898	38%

1/ Compared to number of taps
Source: Statistics Canada - 1996 Census

Table 4: Export of Maple Products - by Main Producing Provinces

Year	Quebec		Ontario		Canada	
	Tonnes	$ 000	Tonnes	$ 000	Tonnes	$ 000
1991	10,871	$36,283	685	$5,271	11,628	$41,762
1992	12,413	$38,882	526	$3,139	13,034	$42,494
1993	14,491	$46,644	844	$4,224	15,883	$52,614
1994	17,502	$58,301	1,141	$4,882	19,093	$64,807
1995	17,813	$72,929	1,336	$6,130	19,437	$80,422
1996	18,863	$89,044	1,379	$8,217	20,502	$98,608
1997	20,248	$93,230	2,012	$8,476	22,813	$104,496
1998	20,919	$101,869	1,796	$7,952	23,294	$113,003
1999	21,758	$100,807	1,617	$6,544	23,952	$110,507
2000	22,452	$93,933	2,313	$8,815	25,463	$105,906
1996-2000 average	20,848	$95,7	1,823	$8,001	23,205	$106,504
2001	22,329	$104,061	3,612	$16,776	27,681	$128,354
2001 /5 year average	+7%	+9%	+98%	+110%	+ 19%	+ 21%

Source: Statistics Canada

Table 5: Regional Export Market Sales (in $000)

Region	1996	1997	1998	1999	2000	2001
North America	$73,339	$81,131	$88,046	$88,957	$82,785	$106,096
Europe	$16,941	$14,874	$17,347	$15,067	$16,904	$13 ,236
Asia/Middle East	$6,708	$6,632	$6,090	$4,852	$4,325	$7,003
Oceania	$1,560	$1,847	$1,341	$1,513	$1,873	$1,876
Africa	$33	$12	$112	$118	$20	$28
South America	$16	$0	$0	$0	$0	$116
TOTAL	$98,608	$104,496	$113,003	$110,507	$105,906	$128,354

Source: Statistics Canada

Table 6: Canadian Maple Syrup Classification

GRADE	**COLOUR CLASS**	**CLASS * (previously)**	**PERCENTAGE OF LIGHT TRANSMISSION**
Canada No 1	Extra light	AA	75 % and more
Canada No 1	Light	A	From 60,5 % to 74,9 %
Canada No 1	Medium	B	From 44 % to 60,4 %
Canada No 2	Amber	C	From 27 % to 43,9 %
Canada No 3	Dark	D	Less than 27%

Source: Maple Products Regulations (C.R.C., c. 289)

* This class is still used in the industry.