

AN INTRODUCTION TO ICE CIDER IN QUEBEC: A PRELIMINARY OVERVIEW

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Abstract

The development, production and promotion of Quebec ice cider is, as a subject of scholarly inquiry, a much underappreciated and undervalued topic. Quebec ice cider, at its very best, offers a truly world class experience: a golden-amber apple-based liquid, produced by either cryo-concentration or cryo-extraction methods, that can be on par with, and indeed surpass, the world's finest dessert wines. This article, drawn from the first comprehensive reference study undertaken on Quebec ice cider, briefly addresses the development of ice cider in Quebec, examines governmental regulations for the industry, identifies a broad range of actors associated with Quebec ice cider, and assesses the current state of the industry. The larger reference catalogue will include a definitive ice cider producer profile for all producers in Quebec, and an examination of marketing practices for Quebec ice cider.

Résumé

Le développement, la production et la promotion du cidre de glace québécois est un sujet de recherche scientifique sous-apprécié et sous-valorisé. À son meilleur, le cidre de glace québécois offre une expérience de dégustation qui se compare à ce qui se fait de mieux à l'échelle internationale. Breuvage de couleur ambrée créé à partir de pommes, produit par cryoconcentration ou cryoextraction, il se compare favorablement et peut même surpasser les meilleurs vins de dessert produits dans le monde. Cet article, tiré de la première recherche exhaustive sur le cidre de glace québécois, offre un survol du développement du cidre de glace au Québec, étudie la réglementation québécoise qui s'adresse à l'industrie, identifie une vaste gamme d'acteurs associés au cidre de glace québécois et évalue l'état de l'industrie. Le catalogue de référence inclura un profil complet de chacun des producteurs de cidre de glace au Québec et une étude des pratiques de commercialisation pour le cidre de glace du Québec.

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further writing and overall editing by Kirkey. The structure and content of the forthcoming book volume, including the construction and template for ice cider producer files and listings, are designed by Kirkey; primary and secondary research for the reference catalogue, including interviews, are conducted by Kirkey and/or Braden; and, the written analysis will reflect the writing of both Kirkey and Braden.

Introduction

This essay, focused on ice cider producers and production in Quebec, is an initial report on a forthcoming book volume. To date, coverage of the development, production, and quality issues related to ice cider in Quebec have been the subject of episodic newspaper and magazine articles, and brief coverage in trade books. In addition, no complete listing of all ice cider producers exists. Finally and most crucially, there is no exhaustive profile of all Quebec ice cider producers. The ultimate purpose of this research project, conducted by scholars – not journalists or individuals in any way connected with the ice cider industry – is designed to produce the authoritative, detailed Quebec ice cider reference book.¹

This contribution to the *Journal of Eastern Townships Studies* utilizes all currently available primary and secondary sources. In addition to referencing all published materials on the subject, intensive on-site interviews (more than fifty) were conducted from January-September 2014 with a variety of constituents across Quebec, most notably ice cider owners/producers. For the specific purposes of this research note, we now turn to address two preliminary tasks: a discussion of the development and production of ice cider in Quebec; and, a profile of the ice cider industry in Quebec.

The Development of Ice Cider in Quebec

Following a short-lived prohibition in 1919, alcohol was officially legalized in the province of Quebec in 1921. While this gave the state monopoly, *Commission des liqueurs de Québec*, the right to sell alcohol, alcoholic apple cider in the province was prohibited for another fifty years. It was not until 1970 that cider was officially legalized and became a leading product on the Quebec market.² In 1988, the first artisanal cider production permit was granted to the Demoy Family of Cidrerie du Minot in Hemmingford, Quebec. The cidrie was thus a leader for Quebec cider making, and their light, sparkling cider Crémant de pomme was also the first cider to be sold at the Société des alcools du Québec (SAQ).³ Of the three major and distinct cider categories, i.e., still cider, sparkling cider and ice cider, the focus of this research project is standard ice cider, or *cidre de glace* in French. Being first produced in the early 1990s, ice cider is a high-end product made almost exclusively in Quebec due to the province's cold winter climate

where temperatures have the potential to drop well below zero, and the large abundance of quality apples.⁴

Inspired by ice wine, this decidedly sweet and sugary product is a Quebec invented dessert or aperitif beverage that has an alcohol content of between 7 and 13 percent and uses the frozen, fermented juice of apples to create its unique and signature taste. Quebec's naturally cold winter months increase the concentration of sugars and flavor within the apple, permitting a fermentation process to take place. The two methods that producers utilize in the making of this product is cryo-concentration and cryo-extraction (to be discussed later in this paper), and most often use McIntosh, Cortland, Empire and Spartan as the fundamental apple varieties in their ice cider blends.⁵

It is also important to identify the two types of licenses that are given to ice cider distributors. The first is artisanal, which permits the producer to sell at his/her place of production, the SAQ, and if the product meets eligibility criteria, at public markets, events and fairs, restaurants, hotels and for export. According to the Cidriculteurs artisans du Québec or CAQ (Artisan Cider Producers of Quebec), an artisan is "a recognized agricultural grower, the apples must be harvested from the permit holder's farmed land, has a minimum of one hectare of bearing apples and all production stages must take place on site at the cidrie facility." The second is an industrial license, which allows the producer to sell at the SAQ as well as grocery stores that sell products containing less than 7% of alcohol,⁶ at farmers' markets and fairs, restaurants, hotels and for export. The industrial producer "follows pre-determined conditions applied by the Régie des alcools, des courses et des jeux du Québec or RACJ (Quebec Alcohol, Racing and Gaming Board), at least 50% of its apples must come from the producer's own harvest, and contact pressing of the apples is allowed but the product must undergo a complete traceability process from raw materials to finished product."⁷

Although ice cider has become Quebec's signature creation, it is still seen as a relatively new product on the market with a young and captivating history. Although many pioneers began experimenting with ice cider in the late 1980s and early 1990s, ice cider was first developed by winemaker Christian Bartheuf in the winter of 1989 in the town of Dunham, Quebec, just north of the Quebec-Vermont border, on a small vineyard named *Le Domaine des Côtes d'Ardoise*. Generally recognized and acknowledged as the "father of ice cider," Bartheuf originally migrated from the small village of Cantal, France to Canada in the 1970s. He became one of the first makers of ice wine in Quebec and was thus a pioneer of Quebec's small wine industry during the 1980s.⁸ Bartheuf decided one day to pursue the idea of using the

frozen juice of apples in place of grapes to create a new, unique product; it was at this point in time that Quebec ice cider was born.

Barthomeuf first selected Cortland, Empire, McIntosh and Spartan apples from his neighbor's orchard as the ones he would use to create his ice cider. Originally utilizing both methods of production (cyro-concentration and cyro-extraction), Barthomeuf decided that he favored cryo-extraction and continued to use this approach in the production of his ice cider. "I used cryo-extraction and cryo-concentration, both of them," notes Barthomeuf. "I froze the apples in the barn and froze the juice outside. And the juice outdoors was nice, but I preferred the outdoor apples."⁹ In 1990, the cider maker continued by producing five separate varieties, again using Empire, McIntosh, Cortland and Spartan. The first bottling was done that year under the label *Pomelière*. Regulation authorities refused to use the name "ice cider," fearing the name would be confused with other cider-based products. Barthomeuf continued to produce his own ice cider over the next several years until collaborating with two other cideries, La Face Cachée de la Pomme from 1992 to 1996, and Domaine Pinnacle from 1996 to 2008. In 2002, Barthomeuf purchased his own orchard named Clos Saragnat in Frelighsburg, Quebec, where he currently produces his own line of ice cider products, *L'Original* and *Avalanche*. In 2007 Barthomeuf was presented an award by the Fundacion de la Sidra and Museo de la Sidra from Spain for his creation of ice cider.¹⁰

Barthomeuf worked alongside La Face Cachée de la Pomme owner, previous film and music video producer, François Pouliot for several years during the early 1990s, showing him the processes and steps for making ice cider. Pouliot describes Barthomeuf as highly innovative, a friend and mentor throughout his early years of producing ice cider. "He learned everything by himself," says Pouliot. "That's Christian. He's a really creative person, he's an, *autodidacte*; he's a real artist." After seeing, tasting and envisioning a fruitful future with the exceptional and unique product, Pouliot abandoned his plans to produce ice wine in Quebec. From 1994 to 1998 the ice cider producer brought his product to Parisian restaurants overseas and shared it with friends and colleagues until securing a permit to sell it in Quebec at weekend markets in 1997.¹¹

By this time, other apple orchards throughout Quebec slowly began to develop and experiment with the production of ice cider. Fellow pioneers included Pierre Lafond and Patricia Daigneault of Cidrerie St-Nicolas in St-Nicolas, Quebec, who began researching ice cider in 1994 after studying ice wine techniques that were being conducted in Germany. Their first commercialized ice cider was produced in 1999.¹² After seeing the steady expansion of the ice cider industry throughout

the province, Pouliot dedicated his time to producing ice cider and opened La Face Cachée de la Pomme in Hemmingford, Quebec. The orchard has become one of the leading producers of ice cider in Quebec, and exports its *Neige* ice cider products to various countries around the world. "Today we sell in some twenty odd countries and have twenty-two employees," says Pouliot. "It is the most sold ice cider in Quebec."¹³ In 2007, La Face Cachée de la Pomme also received an award from the Fundacion de la Sidra in Spain for contributing to the development of ice cider and for introducing it to Quebec's marketplace.¹⁴

One of the largest producers of ice cider in Quebec, Domaine Pinnacle was also among the first cideries to begin producing ice cider in Quebec. The Frelighsburgh orchard was bought in 2000 by Charles Crawford, who among others saw the local and international potential of the product. Before buying the property, Crawford knew he would focus the orchard's attention on the production of ice cider.¹⁵ With the assistance of Christian Barhomeuf, Domaine Pinnacle bottled its first ice cider in 2000 and began producing ice cider on a large scale; their product was found in SAQs throughout Quebec by 2002.¹⁶ According to Crawford, Domaine Pinnacle has helped build the ice cider industry while also marketing the category as well as the brand. He also maintains that the emergence of ice cider has improved the economy and industry in Quebec.¹⁷ Domaine Pinnacle has received universal recognition, distributes its ice cider products to more than 60 countries worldwide, and has received over 100 medals from international contests since its first bottling in 2000.¹⁸

Although Christian Barhomeuf first created ice cider in the year 1989, it was not until July 1998 that ice cider was officially acknowledged as the product it is today. Between 1995 and 1998, Lafond and Daigneault of La Cidrerie St-Nicholas conducted technical testing of their own ice cider, supervised by the National Research Council of Canada, the Research Branch of the Ministry of Agriculture and Université Laval. Following the results of these tests, La Cidrerie St-Nicholas was the first producer to be granted an ice cider designation by the RACJ and SAQ. The trademark "Cidre de glace" therefore first appeared with their 1998 vintage bottled in 1999.¹⁹ Lafond's original production method solely involved using frozen apples, but it was soon widely accepted to use frozen juice in the product's preparation as well. After this official recognition of ice cider in 1999, the product gained world-wide recognition as a unique and superior beverage; it is currently sold at premium prices and is produced at cideries throughout Quebec and also in some northern regions of the eastern United States.²⁰ The emergence of ice cider has also influenced apple-

breeding programs to create apples that possess the rare quality of staying on the trees in the winter for the purpose of crafting ice cider via the cryo-extraction method.²¹ According to the CAQ, a reserved designation of “Ice Cider of Québec” will be coming soon, to establish the beverage as a Quebec made and signature product.²²

The Production of Ice Cider

In terms of production techniques, there are two methods utilized for making ice cider. Although many cideries including Cidrerie Cryo, Château de Cartes, La Face Cachée de la Pomme, Les Vergers Lafrance and Union Libre utilize both methods of production, the first and most commonly used method is called cryo-concentration or “cold-freeze concentration;” this method makes up 95 percent of all ice cider production in Quebec. With cryo-concentration, ripe apples are picked in the autumn months and then placed in cold storage until December or January.²³ Once the outdoor temperatures become cold enough (around -15 degrees Celsius or 5 degrees Fahrenheit), the fruit is pressed and the juice is placed outside in large plastic containers in order to freeze. Upon freezing, the water in the juice will move to the top while the more concentrated and sugary liquid (the “must”) will sink to the bottom of the container. The bottom 20 or 25 percent is then taken and fermented at low temperatures for about six to eight months. This process creates a liquid with a high sugar concentration and high concentrations of malic acid, an acid that balances out the finished product.²⁴

The second technique called cryo-extraction or “cold-press extraction,” makes up only 5 percent of all ice cider production in Quebec.²⁵ Although the majority of ice cider producers utilize the cryo-concentration method, cryo-extraction is used by some including Christian Barthomeuf at Clos Saragnat, Robert McKeown at Cidrerie Leduc-Piedimonte and Emmanuel Maniadakis at Verger Biologique Maniadakis. With this method, producers purposely opt to leave the apples on the trees throughout the autumn months in order to allow the apples to “freeze;” the apples are then hand harvested once temperatures have reached several consecutive days between -6 to -12 degree Celsius.²⁶ The apples, while physically attached to the tree, undergo a distinct, immediately recognizable physiological transformation – with the fruit dehydrating in the sun and the sugars naturally concentrating. In short, the apple becomes “cooked.”²⁷ Once picked, these frozen, shriveled apples are pressed for several hours until all the juice is squeezed from them. The syrupy, high sugar concentrated juice that is squeezed from the apples is then placed into fermentation tanks to undergo about a year of fermentation.²⁸ Another

and more common way that the cryo-extraction method is conducted is to harvest the apples during the autumn months, place them in cold storage until outdoor temperatures reach freezing, and then place the apples in bins outside to freeze.²⁹ Upon using this method, the ice cider often tastes more complex and aromatic, which has led to the designations of “reserve,” “cuvee” or “special” vintage, by some producers.

Cryo-extraction is used less frequently in comparison to cryo-concentration because it is more difficult, more expensive and involves significantly more risk (e.g., weather conditions, pest and disease issues). This method is dependent on the identification and cultivation of apples that will actually remain on the trees throughout the autumn and early winter months; freezing temperatures must arrive before the apples have had time to ripen in order for them to remain on the trees.³⁰ This method also relies solely on the weather and is consequently uncontrolled and unpredictable: some seasons may not provide the proper conditions to produce a crop that can be used to make ice cider. Also, it is not possible when utilizing this method to initially “control the sugar concentration of the juice;” under these circumstances, further steps must be taken to concentrate the juice, or the existing juice is simply fermented in its natural state (under which circumstances, it cannot be used as ice cider).³¹ With cryo-concentration as opposed to cryo-extraction, the producer has more control over, and typically greater direct engagement in the process of making his or her ice cider.

2008 Government Regulations

Beginning in 2008, the Quebec government set forth regulations in an effort to standardize and regulate the processes of making ice cider, as well as protect the ice cider name and product from lower-quality imitations.³² The Quebec legislature passed the *Règlement sur le cidre et les autres boissons alcooliques à base de pommes* (Regulation respecting cider and other apple-based alcoholic beverages) in December 2008 which details the rules and regulations for the production of various ciders in Quebec. In terms of ice cider, it has provided the following definition:

Ice Cider, cider obtained by the fermentation of juice of apples that has a pre-fermentation sugar content of not less than 30° Brix achieved solely by natural cold, producing a finished product with a residual sugar content of not less than 130 grams per liter and an actual alcoholic strength of more than 7% by volume but not more than 13% by volume (*Règlement sur le cidre et les autres boissons alcooliques à base de pommes*).³³

The legislation also prohibited the use of artificial freezing, artificial flavorings or colorings, placed a ban on the adding of alcohol or sugar and identified the conditions of bottling and label making. In 2012, the Quebec government revised the regulations, mandating that commercially distributing ice cider producers in the province follow these regulations. The restrictions are listed as the following:

1. No capitalization.
2. No added alcohol.
3. During the production of the ice cider, the use of artificial cooling is only permitted for purposes of malic precipitation and only if the temperature is not lower than -4°C.
4. No artificial flavors or colors.
5. Ice cider producers must cultivate the apples required for the production of this alcoholic drink. However, holders of a manufacturer's license can produce ice cider using a maximum of 50% of apples that they did not grow.
6. Ice cider can be infused artificially with carbon dioxide provided that the volume of dissolved carbon dioxide per volume of finished product is 1.5 to 2.5 or 3.5 to 5.5.
7. The present regulation came into effect on December 4, 2008.³⁴

Associations/Government Departments/Agencies

Within the ice cider industry, there are several associations, government departments and agencies that assist in the regulation and promotion of ice cider to consumers and wholesalers as well as in the protection of producer interests. These associations include:

- **Le Cidriculteurs artisans du Québec (The Artisans Cider Producers of Québec or CAQ):** Formed in 1992, this association seeks to promote cider producers' common interests, develops and promotes Quebec ciders, and fosters activities that achieve the common goals of its cider producers. It consists of 48 volunteer members, a management board of 7 members selected annually, and one employee. To be considered an artisan cider producer, one must be an agricultural producer, must produce cider from apples growing and harvested from one's own orchard(s), and must produce ice cider onsite. The associate is currently comprised of 46 artisanal cideries and represents 76 percent of all permit-holding artisanal cideries in Quebec.³⁵
- **L'association des producteurs de cidre de glace du Québec (Association of Ice Cider Producers of Quebec or APCG):** created in June 2010 and affiliated with the CTAC (Conseil de la transformation agroalimentaire et des produits de consommation), this association is composed of members from the category "Transformer" whose

president sits on the Board of Directors of the CTAC. It combines three major producers: La Face Cachée de la Pomme, Clos Saragnat and Domaine Pinnacle, whose products make up 75 percent of ice cider production and 90 percent of ice cider exportations.³⁶ Its members meet to ensure effective representation of ice cider in the SAQ.³⁷

- **Conseil des appellations réservées et des termes valorisants (Reserved Designations and Added-Value Board or CARTV):** created by the Quebec government in 2006, this council seeks to protect the authenticity of products and terms used to describe and promote them through product certifications.³⁸ The CARTV is also working to finalize the specifications of the term “Quebec Ice Cider” in order to obtain a protected geographical indication for ice cider.³⁹
- **La Fédération des producteurs de pommes du Québec (Federation of Quebec Apple Producers or FPPQ):** this federation sends to all artisanal cider producers an annual joint plan and declaration of production for each commercial season. These declarations allow the CAQ to carry out its mission of promoting the collective interests of cider producers and develop and promote artisanal cider throughout Quebec.⁴⁰
- **Le ministère de l’Agriculture, des Pêcheries et de l’Alimentation du Québec (Quebec Ministry of Agriculture, Fisheries and Food or MAPAQ):** this government department operates programs focusing on animal and vegetable production, fishing and commercial aquaculture, food processing and distribution and storage and retail.⁴¹ It manages the support program related to the artisanal alcoholic drink sector,⁴² generally promotes ice cider, has aided in the adoption of a designation reserved for ice cider and has carried out the exploratory mission in Switzerland and France with a financial assistance program to support artisanal alcoholic beverages.⁴³
- **Le ministère des Finances (Ministry of Finance):** this government department specifically aims “to foster economic development and advise the government on financial matters, while advising the Minister and the government in the budgetary, fiscal, economic, financial and accounting fields.”⁴⁴ The ministry stipulates conditions for ice cider production, oversees regulation on ice cider and other alcoholic apple based products, has contributed to the designation of the product and also contributed to the carrying out of the exploratory mission in Switzerland and France for the development of this sector.⁴⁵

- **La Régie des alcools, des courses et des jeux du Québec (Quebec Alcohol, Racing and Gaming Board or RACJ):** This government board issues the production permits to ice cider distributors and also provides access to the laws and regulations regarding the production and distribution of ice cider products.⁴⁶
- **La Société des alcools du Québec (Quebec Alcohol Corporation or SAQ):** this government run corporation is responsible for and exercises provincial control over the distribution of alcoholic drinks in the province of Quebec.⁴⁷
- **Union des producteurs agricoles (Agricultural Producers Union or UPA):** this union represents about 43,000 agricultural producers in Quebec. It acts as the official voice that speaks on behalf of all Quebec farmers.⁴⁸ The union has supported the different approaches made by the CAQ concerning cider regulations and the renewal of marketing directives on artisanal alcoholic beverages of the RACJ.⁴⁹

Size of the Industry/Statistics

In Quebec today, there are some fifty-two cideries producing and selling ice cider.⁵⁰ Most of these producers are found in the Montérégie, and Estrie regions, while some are also located in the Laurentian, Outaouais and Quebec City regions, as far north as L'Isle-aux-Coudres. Although the Quebec cider market is still relatively new and very small in size, ice cider continues to become a recognized product on the Quebec market. Approximately 500,000 bottles are produced annually in the province, while the product leads sales in the cider category. In 2011 alone, ice cider sales at the SAQ were estimated at \$6.7 million.⁵¹ It was a leading cider product sold in Quebec in 2012, up 65 percent followed by sparkling cider at 25 percent and still cider at 10 percent.⁵²

Markets worldwide have also begun to demonstrate a sustained interest in the product, as it is now exported to more than sixty countries in Europe, Asia and to the United States. Due to current regulations implemented by the SAQ and limited shelf space, smaller and family owned producers have found it difficult to get their products into the stores. They are therefore finding more success in international markets.

Future Research

The findings in this essay are specifically designed to support, and serve as an integral part, of our forthcoming book volume *Ice Cider in Quebec: A Reference Catalogue*. It is worth underscoring what this work *will not* focus on or engage in: the history of cider; other types of cider (e.g., still, sparkling); a numerical rating or detailed evaluative classification guide to individual products; an exercise in culinary matchmaking;

or, orchard management issues – i.e., ranging from planting trees, grafting, pruning, weed, pest and disease control, and the harvesting and storage of apples. Our reference book will instead feature the following sections: a discussion of the development and production of ice cider in Quebec; an overview of key factors associated with the quality of ice cider; a review and listing of the ice cider industry in Quebec; a comprehensive ice cider producer profile for all producers in Quebec; and an examination of marketing practices for Quebec ice cider.

ENDNOTES

- 1 Our forthcoming book (2015) is designed to be the most comprehensive examination yet conducted – in English or French – on Quebec ice cider. The study is concerned with producing the definitive catalog of all Quebec ice cider producers.
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- 5 Les Cidriculteurs artisans du Québec. "Québec Cider." PowerPoint presentation, 3, 2013.
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- 18 "History and Values," *Domaine Pinnacle*, <http://domainepinnacle.com/en/domaine-pinnacle/history-and-values/> (accessed 4 April 2014).
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- 20 Claude Jolicoeur, *The new cider maker's handbook: a comprehensive guide for craft producers*, (White River Junction, VT: Chelsea Green Publishing, 2013), 279.
- 21 Lehnert, Richard, "Ice Cider," *Good Fruit Grower*, October 1, 2012, accessed May 29, 2014, <http://www.goodfruit.com/ice-cider/>.
- 22 Cidriculteurs artisans du Québec. "Québec Cider." PowerPoint presentation, 14, 2013.
- 23 "The making of Ice Cider," *Clos Saragnat*, <http://www.saragnat.com/english.html> accessed 4 April 2014).
- 24 Brown and Bradshaw, *World's best ciders: taste, tradition and terroir*, 214.
- 25 Les Cidriculteurs artisans du Québec. "Québec Cider." PowerPoint presentation, 16, 2013.
- 26 Leroux and Perron, *Cidres du Québec*, 36.
- 27 Brown and Bradshaw, *World's best ciders: taste, tradition and terroir*, 214.
- 28 Robert Galbraith, "Christian Bartheuf Ice Cider Pioneer in Quebec."
- 29 Jolicoeur, *The new cider maker's handbook: a comprehensive guide for craft producers*, 281.
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- 33 Gouvernement du Québec, *Règlement sur le cidre et les autres boissons alcooliques à base de pommes, Loi sur la Société des alcools du Québec*, 1160–2012 (Québec, QC: Les Publications du Québec, 2013), Chapitre S-13, r. 4.
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