



vineland
RESEARCH & INNOVATION CENTRE

Cider Research and Innovation Strategy

June 2016



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Introduction

Cider is a growth opportunity that Ontario is well positioned to capture. By definition, cider is a fermented alcoholic beverage made from apple or pear juice with an alcohol content similar to beer.

The cider industry in Ontario is young but growing rapidly with producers, both large and small investing in new products and production scale-up¹. Furthermore, the growth is expected to escalate once taxation and market access barriers are overcome. To sustain this growth, it must be underpinned by a unified research and innovation strategy that provides the knowledge base, technologies and problem solving to support growth along the whole value chain. Experience from the wine industry has shown that an innovation strategy can accelerate achievement of the industry's full potential.

With this in mind, Vineland Research and Innovation Centre (Vineland) hosted a strategy workshop in April 2016, inviting participants from the cider industry, apple growers, packers and processors, government and the research community. The discussion and outcomes of this workshop are outlined in the following pages.

State of the Industry

Cider is the fastest growing beverage sales category at Ontario's LCBO with total annual sales of \$73 million in 2015, which represents a 17% increase over the previous year. Of the LCBO cider sales, 73% are imports and 27% are Canadian domestic labels, dominated by large producers such as Molson and Alexander Keiths². Ontario craft ciders, made with Ontario grown apples, account for just 6.5% of LCBO sales³.

The growth in Ontario's cider sales reflects a global surge in cider consumption and, just as in the beer industry, there is room for both the mass-market and craft cider styles. Indeed, many in the craft cider business see mass-market sweet ciders as entry-level products that attract market share from other alcoholic beverages such as beer and wine. Therefore the goal for the industry is to grow cider as a whole category rather than competing between different cider styles.

¹ Grier, K., Sweetland, J. and Rajcan, I. 2013. Economic Impact Study for the Ontario Hard Cider Industry. George Morris Centre. 2013

² LCBO data as communicated by Mark Wilson, Category Manager Beer and Cider April 2016

³ Ontario Craft Cider Association Thomas Wilson, April 2016

International and domestic mass-market ciders are typically made from concentrated apple juice sourced from around the world whereas craft ciders are usually made from fresh-pressed locally-sourced apples.

In Ontario, the majority of apples grown are targeted to the fresh-market⁴ and craft cideries commonly use grade-outs of such varieties as McIntosh, and Empire which produce “new-world” ciders with low complexity. Processing varieties such as Northern Spy and Golden Russet are preferred and there is a growing interest in other cider-specific varieties which have higher acidity and tannin content but are not widely available in Ontario. The supply of apples for cider production may soon become a limiting factor in the growth of Ontario’s craft cider industry.

In this young industry, some elements of the cider value chain are currently weak or disconnected. The opportunity for growth is clear, as is Canada’s ability to grow apples and produce high quality cider. Similarly, challenges such as the taxation structure and market access are front and centre. A group discussion of the current challenges and opportunities followed by a visioning exercise identified five critical success factors as illustrated in Figure 1 below.

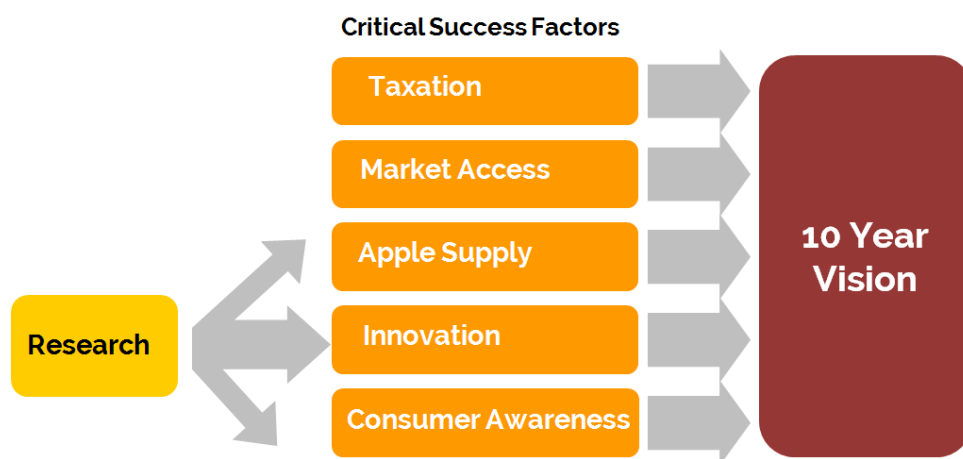


Figure 1. Five critical success factors were identified in order to achieve the ten year vision for a successful cider industry. Research and innovation will drive three of these.

⁴ Ontario Apple Growers, Kelly Ciceran April 2016

Key Challenges and Opportunities

Taxation and Fee Structure

- Current taxation and licensing fee structures were created with a focus on beer and wine and do not adequately accommodate cider producers, effectively creating a cost disadvantage for Ontario cider as compared to imports

Market Access

- Access to markets is currently limited to the LCBO and a small number of other outlets such as farmers markets and some grocery stores

Apple / Juice Supply

- Determining which apple varieties are best for Ontario e.g. climate adaptation, disease resistance, avoiding bi-annuals, taste profile
- Planting cider orchards creates significant risk and large up front investment by growers
- Propagation of trees by nurseries is currently a rate limiting step that may impede our ability to scale up production in Ontario
- The previous decline of the juicing industry has reduced the supply of processing apples at a time when we need them for cider production
- China is a major competitor in the low-cost juice and concentrate market
- Logistics, post-harvest handling and storage of apples and/or juice needs to be resolved to ensure adequate supply
- The pricing structure of juice needs to be stable and predictable

Innovation

- As consumer awareness and sophistication grows it may create opportunities for more premium and differentiated products
- Ontario's higher production costs mean that we need to focus on higher-end ciders made from fresh pressed apples.
- Cider apples can be mechanically harvested which will reduce production costs

Consumer Awareness

- Education and awareness amongst consumers
- Labelling is inconsistent and creates confusion around the definition of cider

Projected Demand

The LCBO predict that total cider sales will reach \$150-160 million by 2020⁵. Our goal therefore, is to maximize the amount of this market that can be captured by Ontario product.

The Ontario Craft Cider Association has set a target to achieve \$43 million in sales by 2020⁶. Based on the current retail price⁷, this works out to a demand of 6.9 million litres of cider processed from Ontario apples.

It takes approximately 2.4 kg of apples to produce a litre of cider⁸ therefore we need 16,500 tonnes of apples to meet the targeted 6.9 million litres. If we assume that the apples will be grown in high density orchards on dwarfing rootstock we could expect a yield of 57kg per tree⁹ and would need 1.45 million trees, or 587 hectares (1,450 acres) of apple trees to supply this demand.

Ontario currently produces around 98,000 tonnes of apples¹⁰ with approximately 70% of these sold into the fresh market¹¹. Using existing apples for cider production could create a gap in existing markets which would need to be offset by imports. The viability of using existing apples and/or the planting of new orchards is an important question, and one that is further complicated by the array of different apple varieties to consider.

Target

Ontario Craft Ciders achieve **\$43 million** in sales by 2020

This will take:

6.9 million litres of cider

16,500 tonnes of apples

1.45 million trees

1450 acres of high density orchards

⁵ Mark Wilson, LCBO, pers. comm. Jun 2016

⁶ Ontario Craft Cider Association data communicated by Thomas Wilson, Chair OCCA April 2016

⁷ www.lcbo.com accessed June 10, 2016

⁸ (100lbs of apples = 5 gallons of cider) amelialoftus.com, brewboard.com accessed June 10 2016

⁹ North Carolina State Extension Service <http://content.ces.ncsu.edu/high-density-apple-orchard-management> accessed June 10 2016

¹⁰ Statistics Canada. Table 001-0009 - Area, production and farm gate value of fresh and processed fruits, by province, annual, CANSIM (database) accessed June 13 2016

¹¹ Ontario Apple Growers data communicated by Kelly Ciceran, Chair OCCA April 2016

What does success look like?

10 year vision for a successful cider industry

Cider Industry

- The cider industry is working collaboratively with growers, nurseries and cideries, large and small, to grow the cider category as a whole
- Growth in the cider category generates profits along the value chain for growers, cideries and retail
- Ontario ciders displace imported ciders
- Capital is available for cider businesses e.g. to invest in orchards or processing equipment

Taxation and Fee Structure

- Ontario's taxation and licensing system is resolved to treat cider like craft beer

Market Access

- Ontario ciders own the local market first and are seeking to expand into export markets

Apple / Juice Supply

- A significant portion of Ontario's apple acreage is planted with cider-specific varieties
- The supply of apple trees for planting new orchards is plentiful and consistent
- There are open lines of communication along the value chain and feedback mechanisms that ensure apple supply meets the forecasted consumer demand
- A wider variety of cider apples are available to support product differentiation
- Grade-outs from the fresh market are used effectively for cider production
- Sourcing of apples /juice, storage and logistics are optimised to ensure cideries can produce year-round

Innovation

- Ciders are widely available in a range of styles to cater to different consumer segments
- Production costs are under control to ensure that apple growers and cider producers are profitable and Ontario ciders are price competitive

Consumer Awareness

- Consumers understand cider and are looking for high quality, authentic product and different styles
- Product labelling is clear, accurate and consistent and standards are enforced
- Ontario ciders appear on every restaurant menu in Ontario
- Foodland Ontario is engaged to drive support for Ontario brand

How can research and innovation drive growth in the cider industry?

After discussion of the critical success factors identified above, participants were invited to define specific topics where research and innovation could provide solutions and support the growth of Ontario's cider industry. The topics were grouped into several broader themes which were then ranked by participants. The original set of themes included one labelled "quality" although most of the topics listed there also related to the other themes. Therefore, to avoid duplication and improve overall clarity, these have been merged and captured within the other five priorities. Asterisks indicate highly ranked individual topics.

Research and Innovation Goals

1. Consumer Research

- *Understand the Ontario consumer and define consumer segments; why they buy cider; what packaging works; what messaging resonates etc
- *Understand taste profiles and how consumers perceive quality

2. Cider Apple Varieties

- Determine which apple varieties are best for Ontario growers, cideries and consumers
- *Develop a research cidery to evaluate performance of varieties in cider production
- Understand which varieties work with which production systems (eg high density production, high efficiency cultivation)

3. Crop Management

- *Develop integrated pest management strategies for healthy trees
- Identify or develop mechanical harvesting technologies and methods, including options for small growers
- Define production parameters for optimal crop yields and quality: e.g. hedging; crop load / thinning; fruit size; peak juice quality

4. Cider Production

- Understand the relationship between juice composition (e.g. sugars, tannins, pectins) on cider taste profiles and quality
- Increase the consistency of cider products by controlling juice composition / blending
- Identify cider-specific yeast strains and propagation methods
- Develop alternative preservation methods
- Create efficiencies and cost savings in the cider production process

5. Storage and Logistics

- Develop strategies to enable year-round cider production
- Define Ontario's current apple storage capacity and future needs
- Define post-harvest apple storage protocols and technologies to retain cider quality
- Define juice storage protocols and technologies to retain cider quality

Appendix: Workshop Presentations and Participants

Presentations

Speakers representing various members of the cider value chain presented their perspectives on the state of the industry:

Thomas Wilson, Chair, Ontario Craft Cider Association

Mark Wilson, Category Manager Beer and Cider, LCBO

Kelly Ciceran and Brett Schuyler, Ontario Apple Growers

Each was asked to address the following questions in their presentations.

- Where does a successful cider industry look like in 10 years? What does it mean for your business?
- What are the most important factors that will enable the cider industry to grow?
- What is your perspective on the state of the Ontario cider industry? Who is the competition? How do Ontario ciders compare with imports?
- What loyalty do consumers have to Ontario-grown cider? What are the main factors that impact the quality of your product?

Presentations are attached at the end of this document.

Participant List

Janelle Balsillie	The Fruit Wagon
Amy Bowen	Consumer Insights Program Leader, Vineland Research and Innovation Centre
Jim Brandle	CEO, Vineland Research and Innovation Centre
Kelly Ciceran	Ontario Apple Growers
Jason Crawford	Director, Membership & Industry Relations, Food and Beverage Ontario
Adam Gerrits	Brickworks Cider House
Mike Gibson	Algoma Orchards
Steve Gill	Niagara College, General Manager, Learning Enterprises Corporation
Amanda Green	Apple specialist, OMAFRA,
Lesley Huffman	Consultant; apple specialist, OMAFRA (retired)
<i>Tania Humphrey</i>	<i>strategy writer, Vineland Research and Innovation Centre</i>
Hank Hunse	CEO, Shiny Apple Cider, Stonechurch
Terry Johnson	Consultant
Mike Kauzlaric	Technology Scout and Grower Outreach, Vineland Research and Innovation Centre
Belinda Kemp	Oenologist CCOVI, Brock University
Richard Liu	Ontario Craft Cider Association, Sunnybrook Wine
<i>Vicki Luke</i>	<i>facilitator, OMAFRA</i>
Logan Martin	Sales and Marketing, Martin's Family Fruit Farm
Darby McGrath	Nursery research, Vineland Research and Innovation Centre

Andrew Nixon	Consultant
Chris Noll	VP Sales&Marketing, Brickworks Cider House
Tom O'Neil	Norfolk Fruit Growers Association
Dan Reardon	O'Riordain's Cider Orchard
<i>Kim Reep</i>	<i>facilitator, OMAFRA</i>
Praveen Saxena	Plant cell technology, University of Guelph
Claudia Schmidt	Horticultural economics, Vineland Research and Innovation Centre
Brett Schuyler	Ontario Apple Growers, Schuyler Farms
Christina Turi	Gosling Research Institute for Plant Preservation
Suzanne van Bommel	Government advisor, Ontario Craft Cider Association
Bryan Watts	Ontario Craft Cider Association, Thornbury Cider
Mark Wilson	Category Manager, Beer & Cider, LCBO
Thomas Wilson	Ontario Craft Cider Association, Spirit Tree Estate Cidery
Brian Yeo	Co-owner, Pelham Ciderworks