

HARD CIDER IN THE NORTH CENTRAL REGION: Industry Survey Findings

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July 2017



Cider apple trees at The Cider Farm in Mineral Point, Wisconsin

Executive summary

A growing hard apple cider industry in the U.S. has the potential to contribute to local, sustainable food systems. In order to better understand this resurgent industry, the University of Wisconsin-Madison Center for Integrated Agricultural Systems surveyed hard apple cider businesses across 12 states in the North Central Region: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin. Questions focused on basic business profile, production, sales, sourcing of apples, marketing approaches, distribution strategies, constraints and opportunities in the industry, and cider makers' preferences for future research and outreach.

We received 44 completed surveys, a 36 percent response rate. The majority of the cideries that responded were small startup companies. They reported rapid growth over the last three years, and projected continued growth for the coming three years. These cideries procured over 90 percent of their apples either locally or regionally, and they were willing to pay significantly more per bushel for cider-specific apple varieties compared with varieties grown for eating

fresh. They were not particularly concerned with the cosmetic appearance of the fruit.

Survey respondents employed a broad range of packaging and marketing strategies. Though there was no clear consensus about how cider should be marketed, most cideries aimed to differentiate themselves from larger companies that produce primarily sweet ciders, often made from imported apple juice concentrate.

The greatest challenges and industry constraints identified through the survey revolved around financing, marketing and distribution. In particular, cider makers were interested in information about perceptions of cider among retailers, distributors, chefs and bar owners; consumer willingness to pay for cider; and successful business practices in the cider industry. On the whole, cider makers highly ranked the need for research or new information on several topics, suggesting that these companies could benefit from increased engagement from relevant research and educational institutions.

Figure 1: Map of Cider Producers in the North Central Region (Source: cydermarket.com)



Background

Hard apple cider was once America's beverage of choice—a mainstay of early colonists, homesteaders and immigrants. Industrialization and migration to cities favored the economics of beer, however, and with the temperance movement and Prohibition, cider fell from prominence. Only in recent years has it experienced a resurgence.

Between 2011 and 2015, hard apple cider sales in the U.S. grew from \$89.9 million to \$326.9 million, and cider was the nation's fastest growing beverage category.¹ In just a five-year period, 432 new cider companies started business across the country, and the North Central Region is now home to over 130 cider businesses.²

Hard apple cider can contribute to sustainable food systems. Apples used for cider do not need to be visually appealing, providing a market for blemished apples and potentially reducing pesticide and fungicide use. New farmers are interested in the craft beverage market. Connecting local apple production with craft cider making has potential nationally, since apples are grown in all 50 states.³

In general, cider research has lagged behind growth in the cider industry, and the few researchers scattered around the country who are working with cider are primarily doing it alongside their primary responsibilities. Baseline research related to cider production is largely limited to a few trials of cider apple varieties^{4,5,6} and recent surveys of cider producers in the Pacific Northwest.^{7,8}

¹2016. IBIS World. Cider Production.

²2016. Cider Maker Survey. Cyder Market, LLC. Available at: <https://www.cydermarket.com/cider-maker-survey.html>

³2012. USDA NASS Census of Agriculture. Table 31. Available at <https://www.agcensus.usda.gov/Publications/2012>

⁴Miles, C., J. King and E. Scheenstra. 2016. "Tree growth habits and tree characteristics and WSU Mount Vernon NWREC." Washington State University.

⁵Rothwell, N. 2013. "Hard Cider Varieties Suitable for Northern Michigan." Northwest Michigan Horticultural Research Center. Available at: http://www.canr.msu.edu/uploads/files/Research_Center/NW_Mich_Hort/Training_Pruning_Varities/HardCiderVar2012Expo.pdf

⁶Zimmerman, A., J. King, E. Scheenstra, and C. Miles. 2016. "Evaluation of Varietal Ciders Produced at WSU Mount Vernon NWREC." Washington State University. Available at: ext100.wsu.edu/maritimefruit/wp-content/uploads/sites/36/2016/05/CiderEvaluations2016.pdf

⁷Pullman, M. 2015. "Northwest Cider Survey 2015." Northwest Cider Association with assistance from Irvine and Co. Available at: <http://www.nwcider.com/northwest-cider-survey-2015>

⁸Pullman, M. 2016. "State of Northwest Cider 2016." Northwest Cider Association with assistance from Irvine and Co.



Feeding apples onto an elevator that conveys them to an apple grinder and press

The purpose of this study was to learn new information about hard apple cider companies in the North Central Region of the U.S. and, in particular, to uncover trends among small- and medium-sized companies that may not be reflected in national market research. We aimed to understand constraints and opportunities that the industry faces, as well as cider makers' priorities for future research and outreach.

About the survey

After receiving input on the survey instrument from cider makers and researchers, we sent it to 130 cider businesses in 12 states in the North Central Region. Cideries were identified using cydermarket.com, as it contains the most thorough and up-to-date listing that we are aware of. Surveys were sent electronically in August 2016 to the contact information on each cider company's website. We requested that each survey be filled out by an owner, manager or other representative who could answer on behalf of the cider business. Four of the surveys came back as undeliverable, and five companies responded that they were not producing cider. We received 44 completed responses—a 36 percent response rate—after removing undeliverable messages and companies not producing cider.

The survey design included questions about basic characteristics of each cider business, including production, sales,

number of employees, apple sourcing, processing methods, packaging, marketing and distribution. Further questions asked for cider makers' opinions about constraints and opportunities within the cider industry, and the survey concluded with questions about cider makers' preferences for future research and outreach.

In addition to quantitative questions and rating scales, open-ended questions gave respondents the opportunity to raise additional issues and clarify their responses.

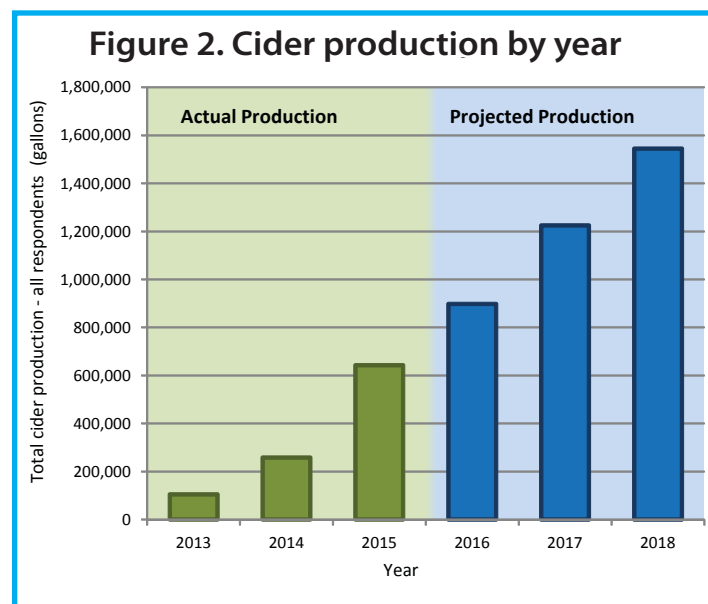
Results

Cider profiles

The typical cidery in this survey can be characterized as a small, startup company. Of the 44 respondents, 77 percent started business between 2010 and 2016, and 68 percent had less than \$100,000 in sales in 2015. Only 10 percent of companies had more than \$500,000 in sales. On average, the companies had 1.4 full-time employees, 1.7 part-time employees and one seasonal employee.

A growing industry

Most of the cideries showed growth in production over the last three years, and they projected continued rapid growth for the coming three years (Figure 2). Between 2013 and 2015, cider production among the companies surveyed increased more than six-fold, from just over 100,000 gallons to over 600,000 gallons. They expected to more than double production by 2018, reaching over 1.5 million gallons.



Seventy-four percent of companies either agreed or strongly agreed that there is still significant room for growth within the regional cider industry. One respondent stated, “I don’t see a whole lot of bottlenecks.”

In spite of general optimism, a few cider makers were starting to feel concerned about increasing competition, especially when competing with already crowded markets for wine and craft beer. According to one respondent, “I think shelf space is pretty saturated right now, especially for unknown brands.”

Perceived profitability

Researchers asked respondents to rate the profitability of their business, based on their best judgement. Financial analysis data was not collected through the survey for determining profitability, so results represent producers’ perceptions only. Nearly half of respondents rated that they were “breaking even,” and overall more reported that they were making money than losing money (Figure 3). According to one cider maker, “I put that we are ‘breaking even’ as a cidery. This is only because we have had to invest a lot of money into equipment these first two years. We should start seeing more profit this year.” Other startup cider companies may be operating under similar circumstances, since the first years of starting a business often include initial investments combined with production and marketing hurdles.

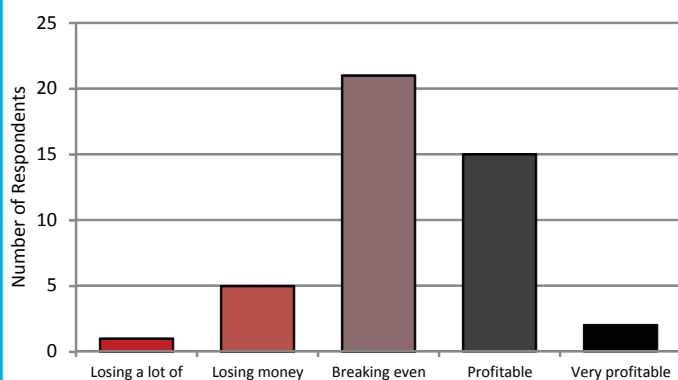
Sourcing and processing apples

Cider makers showed a strong preference for local apples. In addition to procuring 15 percent of apples (by volume) from their own orchards, they bought 55 percent from local orchards (defined here as “within state or within 100 miles of the business”). An additional 21 percent of apples came from regional orchards (defined here as “from nearby or neighboring states, less than 500 miles”). Respondents procured nine percent of apples from U.S. orchards that were 500 or miles away, and less than one percent from international orchards.

The majority of cideries (80 percent) bought their apples directly from orchards. According to one cider maker, “We hope that most, if not all, Upper Midwest cider makers find ways to use local apples because, to us, that is the beauty of wine/cider: the taste of the region.”

Cideries employed a range of methods to procure apples, juice and/or concentrate. Twenty-nine companies reported pressing their own apples, 19 had apples custom pressed, 27 companies purchased juice and six purchased apple juice concentrate. The focus among these cideries on local procurement of apples and fresh juice runs counter to the approach of larger cider companies, which primarily purchase apple juice concentrate that is often imported.⁹

Figure 3. Perceived cidery profitability*



*profitability based on owners’ best judgement, not a financial analysis

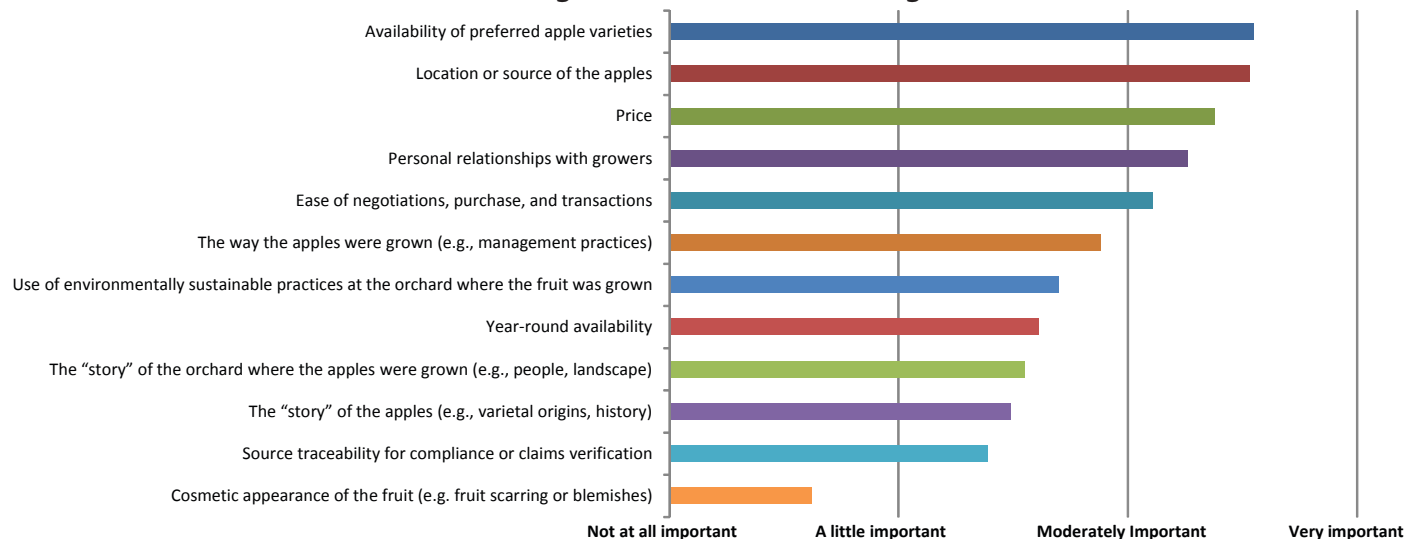


Cider makers use a wide variety of apples.

⁹2016. Becot, F., T. Bradshaw and D. Conner. “Apple Market Expansion through Value-added Hard Cider Production: Current Production and Prospects in Vermont.” *HortTechnology* April 2016 26:220-229. Available at: <http://horttech.ashspublications.org/content/26/2/220.full.pdf+html>

Figure 4. Importance of factors in determining which fruit to buy

(Averages of all cider maker ratings)



Cider makers were also asked to rate the importance of different factors in determining which fruit they buy (Figure 4). Availability of preferred apple varieties was rated as their highest priority, followed closely by the location of the apples, price, personal relationships with growers, and ease of negotiations, purchase and transactions. In other words, cider makers were looking foremost to procure preferred apple varieties locally, at a reasonable price, from a grower they know, and through a straightforward negotiation process.

The cosmetic appearance of the apples was rated as least important among cider makers in choosing which fruit to buy. This suggests that cider makers are creating new markets for scarred, blemished, misshapen or otherwise imperfect apples that do not make the grade for fresh market sales. Reduced concern about the cosmetic appearance of fruit also offers growers of cider-specific apples new management options that may require fewer inputs and less spraying to control pests or diseases.

Many cider makers expressed frustration that they were unable to find the varieties they wanted and, in particular, high tannin, cider-specific apples. For example, one cider maker expressed that there is “huge demand for good cider apples, [but] very little supply,” and another said that it is difficult “convincing local farmers to grow more cider apples and less dessert apples.” Cider-specific apples tend to have high sugar content (brix) to produce stronger, full bodied ciders, and they feature tannins that add bitterness

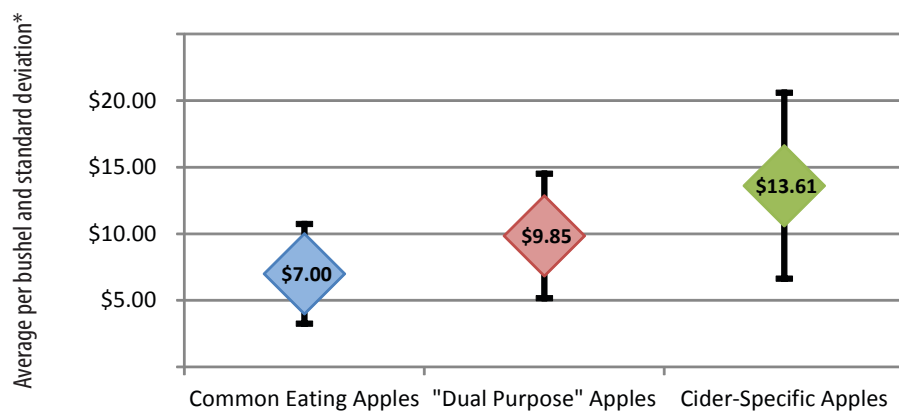
or astringency. Historically, Americans grew thousands of varieties of apples for cider, and cider-specific apples are still commonly grown in parts of England, France and Spain. However, horticultural data on cider-specific varieties is lacking for local conditions.

A few cider makers were not willing to go out of their way for cider-specific apples. One respondent commented that cider apples are too expensive and overrated. Similarly, another cider maker stated, “Orchards can sell their juice at farmers markets for way more than we can pay for cider, so getting heirloom and cider apples is very hard, very expensive and almost not worth it.”



This Wisconsin Russet apple may not be cosmetically attractive, but cider makers find its juice properties intriguing.

Figure 5. Prices paid for different apple varieties



*the bars show standard deviation and do not illustrate the full range of prices paid

Multiple cider makers felt that “lack of margin in distribution” and challenges with “profitability in the wholesale market” were impeding their growth. In some states, self-distribution is not a legal option.

Cider makers debate whether cider should be marketed like beer (typically a lower cost, fun, everyday drink in single-serving bottles meant to be enjoyed in gulps) or like wine (typically a higher cost

per liter, elegant drink to be shared, sipped and savored).

Despite those comments, on average, cider makers were willing to pay nearly twice as much for cider-specific apples as they were for common eating apples (\$13.61 versus \$7.00 per bushel, respectively). A few outliers were willing to pay as much as \$25 per bushel or more for cider-specific apples (Figure 5). In comparison, U.S. fresh market apples earn \$12 to \$20 per bushel, on average, in markets where grading standards are high.¹⁰

Cider packaging and sales

Cider makers were employing diverse packaging approaches (Figure 6 on page 7). The majority of cider makers (89 percent) were selling some cider in kegs or on draft. Larger format bottles were also popular, with 48 percent of cideries using 750 ml bottles and 27 percent using 22 ounce “bombers.” Fewer cideries were using smaller bottles (20 percent) or cans (20 percent).

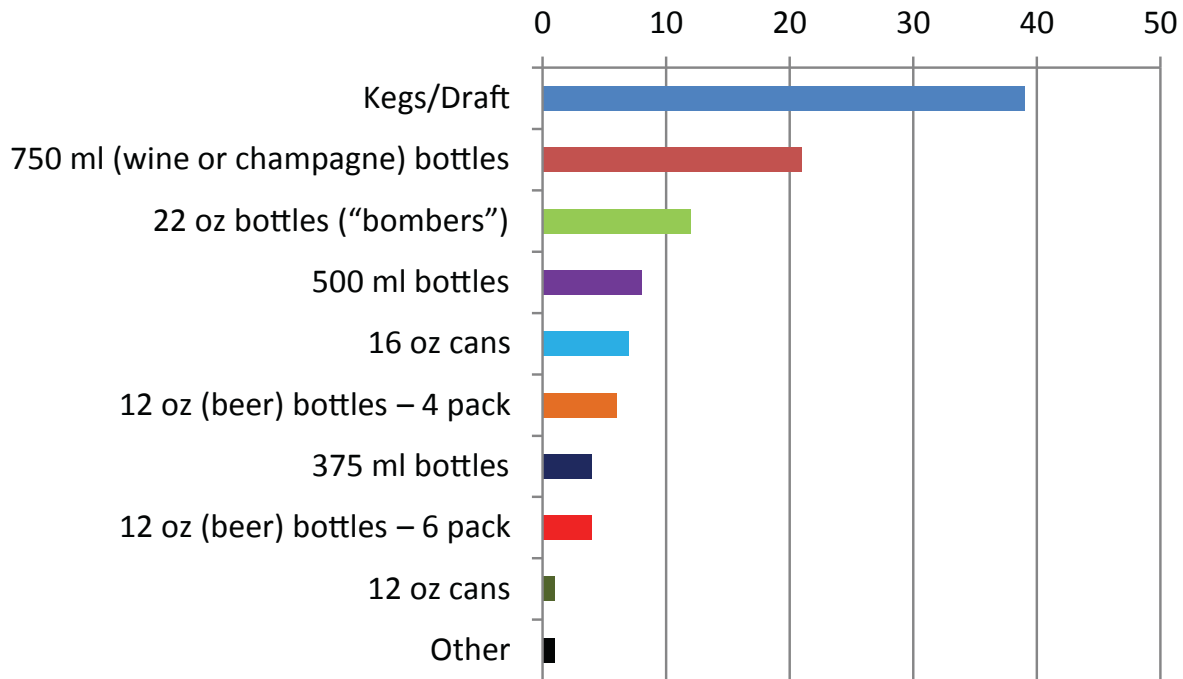
Consistent with purchasing apples locally, cider makers were selling 93 percent of their products locally, six percent regionally and one percent nationally. Forty-two percent of cider was being sold on site, directly to consumers, and this is likely where cider makers have the best profit margin per unit sold. Thirty-four percent of cider was distributed by the producer, and the remaining 24 percent was sold through distributors.



Respondents market their cider in a variety of ways, some choosing an approach similar to that used for wine, and others more like beer.

¹⁰2016. Agricultural Prices. National Agricultural Statistics Service. ISSN: 1937-4216. Available at: <https://www.usda.gov/nass/PUBS/TODAYRPT/agpr1016.pdf>

Figure 6. Number of cider makers using selected packaging options



When asked if they marketed their cider like beer or like wine, cider maker responses varied somewhat evenly across the entire spectrum of possibilities (Figure 7). These results show that there is no consensus among cider makers as to where cider might fall on this spectrum.

Likewise, using their own definitions of the terms, cider makers rated whether they characterized their cider as “affordable” or “high end.” Responses were similarly varied (Figure 8) with the exception that no cider makers rated their cider on the extreme end of “affordable.”

Figure 7. Cider maker responses to the question

“Do you market your cider more like beer or wine?”

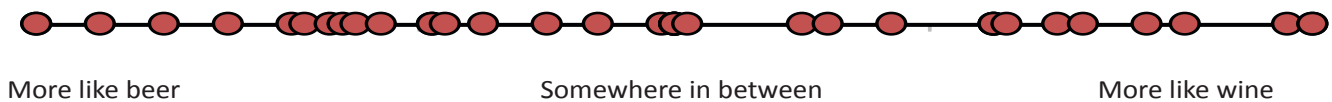


Figure 8. Cider maker responses to the question

“Would you characterize your cider as ‘affordable’ or ‘high end’?”

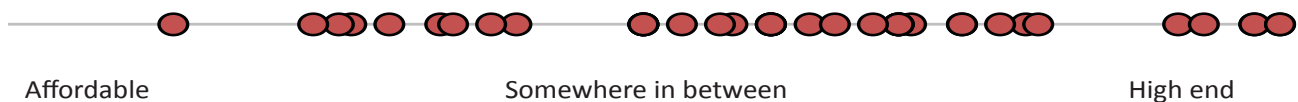
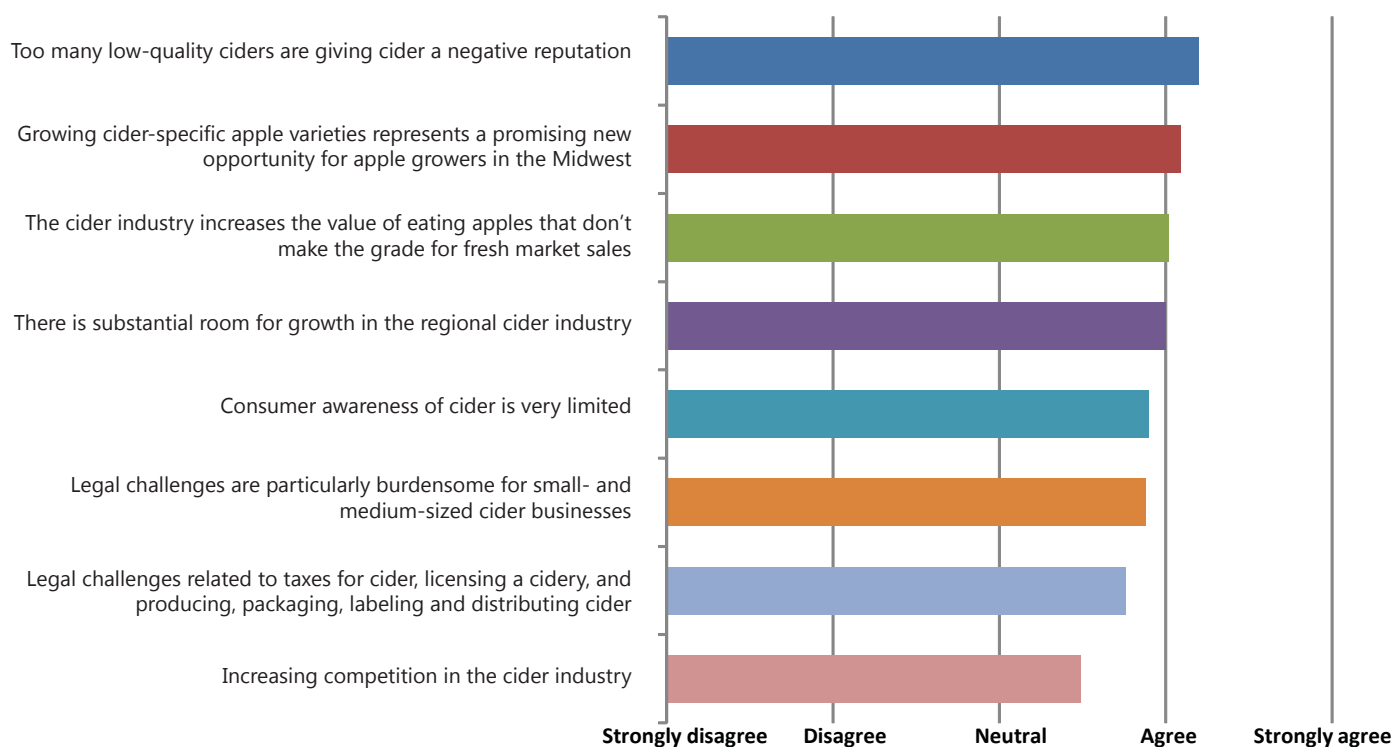


Figure 9. Constraints and opportunities in the cider industry
(Averages of all cider maker ratings)



Constraints and opportunities in the cider industry

Surveyed cider makers were asked to rate the extent to which they agreed with a series of statements reflecting potential constraints and opportunities within the cider industry (Figure 9). In terms of constraints, the cider makers agreed most strongly that “Too many low-quality ciders are giving cider a negative reputation.” Several cider makers commented on this. For example, one respondent stated, “Too many consumers get off on the wrong foot with cider. They’ve tried a few sweet, soda-like ciders from places like Woodchuck and Angry Orchard, and they think, ‘Oh, I don’t like cider; it’s too sweet.’ The adolescent branding from these companies further tarnishes cider’s image, and ciders are often relegated to a junky corner of retail stores where craft beverage drinkers rarely venture.”

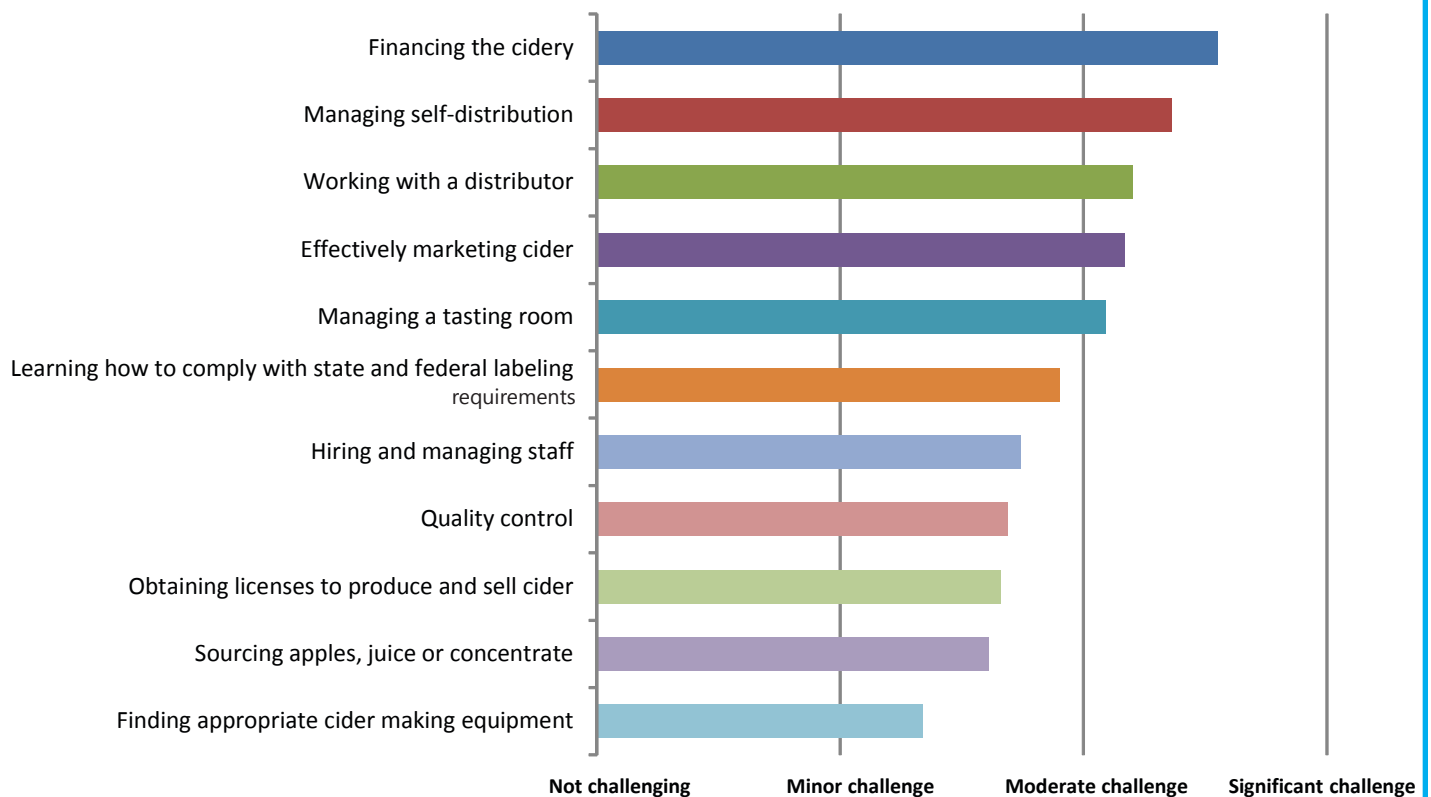
The second most highly rated constraint was “Consumer awareness of cider is very limited.” Cider makers tended to agree that legal challenges constrain the cider industry, but the survey did not ask them to select specific legal challenges. To a somewhat lesser extent, some cider makers were concerned about increasing competition within the cider industry.

Though it was not an explicit question, some cider makers suggested that lack of cooperation among cider makers serves as a constraint to growth. Additionally, some female cider makers voiced concerns about sexism within the cider industry, creating an unwelcoming environment for women entrepreneurs.



Figure 10. Challenges in starting a cidery

(Averages of all cider maker ratings)



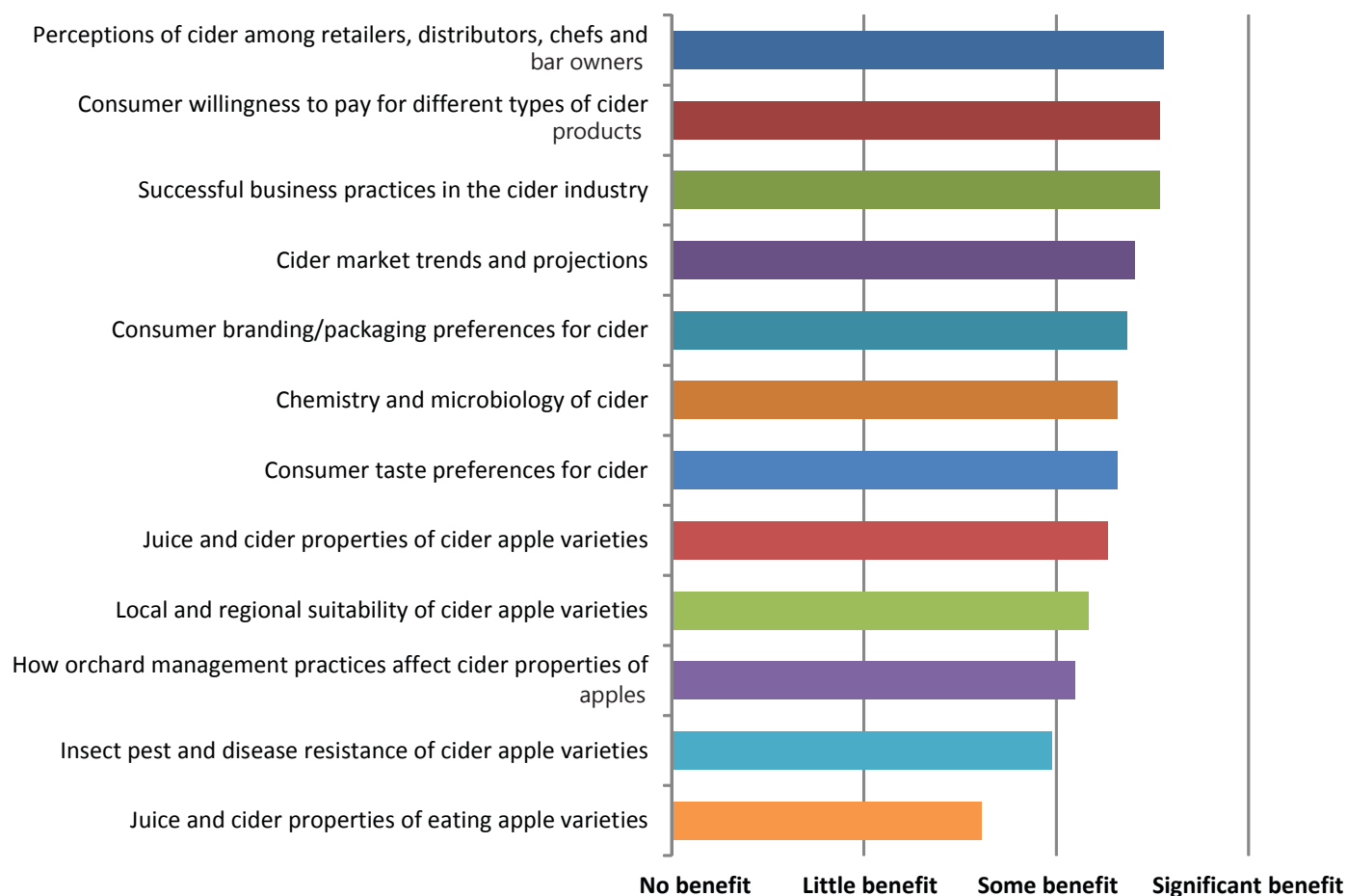
Bottling cider at Dabeeza LLC, a small startup company

In terms of opportunities, most cider makers agreed with the following statements: “Growing cider-specific apple varieties represents a promising new opportunity for apple growers in the Midwest,” and “The cider industry increases the value of eating apples that don’t make the grade for fresh market sales.” As mentioned earlier in the report, they also tended to agree that there is substantial room for growth within the cider industry (with the caveat that there is increasing competition).

Cider makers were also asked to rate the challenges of starting a cidery (Figure 10). Financing the cidery was identified as the most significant challenge. Other challenges rated as moderate to significant were managing self-distribution, working with a distributor, effectively marketing cider and managing a tasting room. In other words, financing, marketing and distribution were the major challenges. Sourcing apples, finding appropriate equipment, complying with labelling requirements, obtaining licenses, quality control, and hiring and managing staff were lesser concerns.

Figure 11. Benefits of new information about research topics

(Averages of all cider maker ratings)



Research and outreach preferences

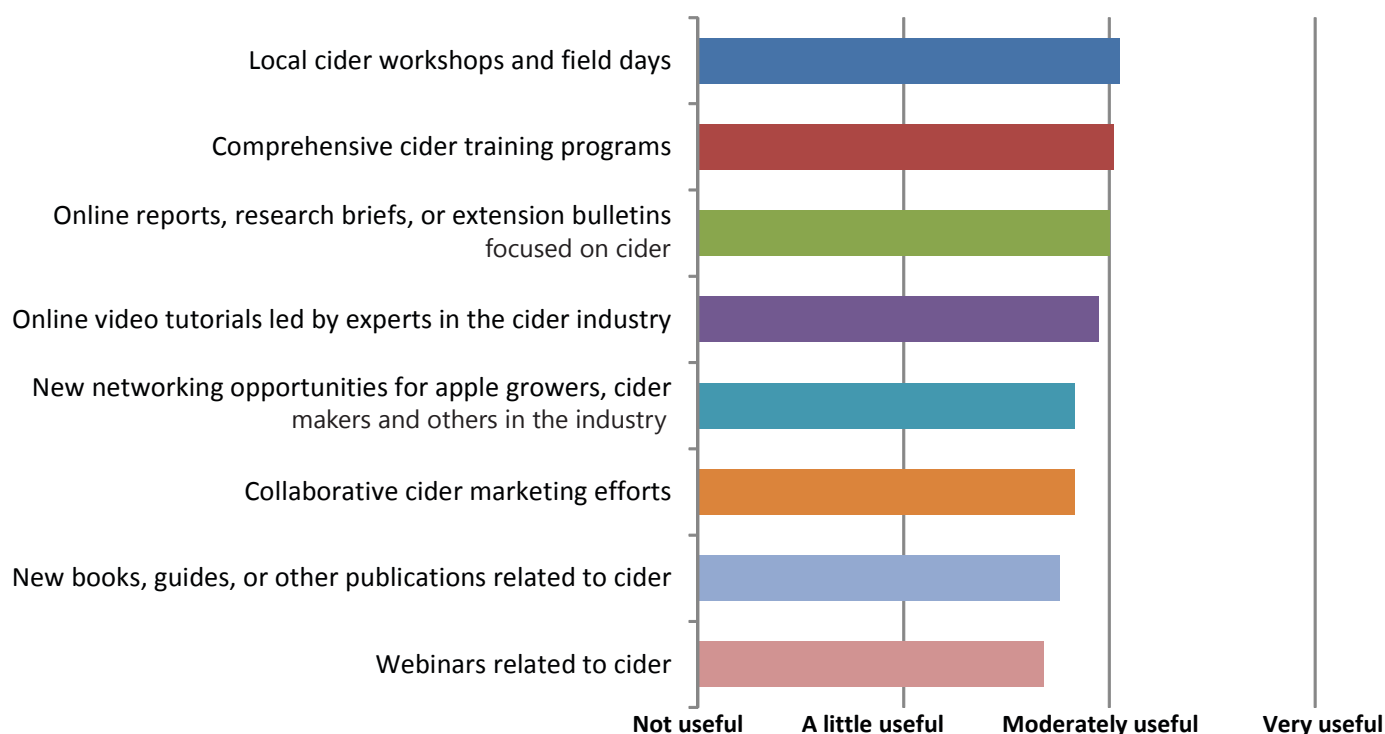
To assess research preferences, cider makers ranked the benefits of new information about a range of potential research topics. On the whole, cider makers saw “some benefit” to “significant benefit” for many potential research topics, suggesting that they would welcome research from a broad range of disciplines (Figure 11).

Topics that rated highest were perceptions of cider among retailers, distributors, chefs and bar owners; consumer willingness to pay for different types of cider products; and successful business practices in the cider industry. One cider maker’s comment captured this well:



Cider makers expressed interest in a range of research topics, including how orchard management affects cider properties.

Figure 12. Preferred outreach approaches
(Averages of all cider maker ratings)



“For us, making good cider is the easy part. Selling it is what is hard.”

The research topic that generated the least interest was juice and cider properties of eating apple varieties, suggesting that cider makers already know what they’re getting with most eating apples. However, several cider makers mentioned in their comments that testing and selection of cider-specific apple varieties would be their top priority.

Cider makers were also asked to rate their preferred outreach approaches (Figure 12). No obvious favorites emerged, but local cider workshops and field days were rated highest, followed closely by comprehensive cider training programs and by online reports, research briefs or extension bulletins focused on cider. Webinars and printed cider publications received the lowest ratings.

Conclusions

The cider industry in the North Central Region of the U.S. is mostly comprised of small startup businesses that have grown rapidly in recent years. These businesses appear to be on a continued trajectory of growth, and most cider makers are optimistic about the future of the industry.

That said, initial concerns about market saturation among some regional cider makers suggest that future growth may run up against constrained consumer demand.

The cider makers surveyed represent a different business model than larger brands that currently dominate national sales. While the larger brands focus on ciders made from imported concentrate, the cider makers in this survey procure over 90 percent of their apples locally or regionally, and primarily use fresh pressed juice to create what many perceive as a superior product. Several of these cider makers agreed that local, craft cider needs to be differentiated from national brands and that consumer education will continue to drive growth for regional producers, even if national cider sales level off. According to one cider maker, “Marketing and awareness of good cider will help grow demand... If the industry can push to move it in that direction, from a marketing standpoint, there is more potential.”

Another point of differentiation that some (but not all) cider makers were interested in is the use of cider-specific apple varieties to create a higher quality product. Most

cider makers were willing to pay considerably more per bushel of cider-specific apples, and felt that growing these apples represented a promising new opportunity for apple growers in the region. According to one cider maker, “We believe great cider balances on the apple, so the better apples we can grow or source the better our cider will be.”

The main perceived industry challenges identified in the survey were related to finance, marketing and distribution. Likewise, respondents rated highest these areas for future cider research: perceptions of cider among retailers, distributors, chefs and bar owners; consumer willingness to pay for different types of cider products; and successful business practices in the cider industry.

Cider makers seemed keenly aware that the long-term growth prospects for their businesses will depend on understanding their market and carving out a more solid niche for local, craft cider.

In addition to the priorities of finance, marketing and distribution, cider makers saw potential benefits from a



Cider makers rated local field days and workshops, such as this one at Atoms to Apples Orchard, highest among outreach approaches.

broad range of other research topics. In the words of one cider maker, “For wine, there are whole fields of study in oenology, viticulture and wine marketing. Researchers in cider have only started to scratch the surface.”

External support in terms of research and outreach in a broad range of disciplines will be vital for these small, startup companies to survive, thrive and create a sustainable industry.



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The Center for Integrated Agricultural Systems (CIAS) is a research center for sustainable agriculture in the College of Agricultural and Life Sciences, University of Wisconsin-Madison. CIAS fosters multi-disciplinary inquiry and supports a range of research, curriculum and program development projects. It brings together university faculty, farmers, policy makers and others to study relationships between farming practices, farm profitability, the environment and rural vitality.

Photos by Matt Raboin, CIAS