
Selling Tennessee Locally Made Hard Apple Cider

David Hughes, Professor, Greever Chair in Agribusiness Development

Kimberly Jensen, Emeritus Professor

Jamey Menard, Research Leader I

Carlos Trejo-Pech, Associate Professor

Department of Agricultural and Resource Economics

David Lockwood, Professor

Department of Plant Sciences

This study was funded in part by a grant through the USDA/Agricultural Marketing Service-Federal State Marketing Improvement Program (FSMIP)

Contents

| | |
|--|----|
| The U.S. and Tennessee Hard Cider Industry | 3 |
| Study Goals | 3 |
| Surveyed Population and Data Collection | 3 |
| Results | 4 |
| Nature of Responding Businesses..... | 4 |
| Retail Environment for Tennessee-Made Hard Cider | 7 |
| Business Lack of Interest | 9 |
| Business Training Needs | 10 |
| Summary and Conclusions..... | 11 |
| References..... | 11 |
| Appendix..... | 12 |

List of Figures

| | |
|--|---|
| Figure 1. Business Type as Indicated by Survey Respondents | 4 |
| Figure 2. Year that Surveyed Businesses Opened | 5 |
| Figure 3. My Business Lost Money in 2019-2020 and I Expect It Will Lose Money in 2021..... | 5 |
| Figure 4. Estimated Value of Sales by Survey Responding Businesses..... | 5 |
| Figure 5. Operation Net Income Among Surveyed Businesses Response Compared with Before COVID-19 | 6 |
| Figure 6. Anticipated 2021 Sales Among Surveyed Businesses Compared with Before COVID-19 | 6 |
| Figure 7. Hard Cider Sales Status as Indicated by Survey Respondents | 7 |
| Figure 8. Hard Apple Cider Sales Market Types as Indicated by Survey Respondents | 7 |
| Figure 9. Container Types Used to Sell Hard Apple Cider by Respondents | 7 |
| Figure 10. Percent of Hard Apple Cider Sales that Were Tennessee Made, Actual and Anticipated, 2019-2022 | 8 |
| Figure 11. Interest Among Customers in Purchasing Local Hard Apple Ciders Compared with Before COVID-19 | 9 |

List of Tables

| | |
|---|----|
| Table 1. Level of Importance of Each Attribute to Current or Future Hard Apple Cider Customers | 8 |
| Table 2. Reasons Why Businesses Not Interested in Selling Tennessee Made Hard Apple Cider | 9 |
| Table 3. Surveyed Business Responses Regarding Degree of Helpfulness of Information and/or Technical Assistance Types for Selling Locally Made Hard Apple Cider | 10 |

Selling Tennessee Locally Made Hard Apple Cider

The U.S. and Tennessee Hard Cider Industry

Despite recent alcoholic beverages market volatility, hard apple ciders have been a growing segment of U.S. alcoholic beverage sales. According to one industry source, Cyder Market, there were 1,145 cider makers (cideries) in the U.S. in 2019. Hard cider is fermented apple juice that uses the same process as wine making. Cideries can purchase juice, press juice from purchased apples, or grow their own apples for pressing and juice fermentation. While other states, in particular New York, Michigan, Vermont and Washington, have a well-developed hard cider industry (Cyder Market 2019), the industry in Tennessee is in early development with only ten cider makers as of 2022. With tourism being the state's second largest industry (Tennessee Dept Tourist Development, 2022), and the rapid growth of Tennessee craft breweries and distilleries, cideries could have an opportunity for strong growth. Tennessee farmers may also have the opportunity of profitably growing cider apples, including varieties such as Arkansas Black, Grimes Gold, Mutsu, Rome and Winesap. Hard cider apple orchard and cider making facilities with tasting rooms could potentially attract visitors from both within and outside Tennessee.

Study Goals

While the cider industry is emerging in Tennessee, little market information exists regarding how actual and potential vendors of hard apple cider perceive the market potential for the product. Information regarding marketing channels, product packaging needs, such as bottles, kegs and labels, and product attributes, including using local apples in cider production, could inform current producers and individuals interested in starting a cidery. The overall goal of this research is to develop a greater understanding of the Tennessee market for hard apple cider and to explore ways to facilitate the growth of the state's emerging hard cider industry. This study specifically focuses on hard alcoholic beverage producers' interest in making craft ciders, barriers to their entry, and their assistance needs. Hence, our objectives are to 1) ascertain the reasons for interest or lack thereof by Tennessee alcohol product makers in selling Tennessee-produced hard apple cider, 2) assess the behavior of current providers of hard apple cider in Tennessee, and 3) determine the training and information needs of current and potential producers of Tennessee hard apple cider.

Surveyed Population and Data Collection

To accomplish our research goals and based on several different data sources, including the Pick Tennessee Products, the Tennessee Craft Brewers Guild, the Tennessee Distillers Guild, the Tennessee Farm Winegrowers Alliance, and the Tennessee Whiskey Trail websites, we compiled a survey population of local alcoholic beverage producers. The survey population consisted of 238 Tennessee businesses, including producers of distilled products (58), craft beer (106), wineries (64), and ten cideries. We initially provided email-based links to the survey instrument in Qualtrics, followed by a second e-mail notice several weeks later. Surveys with return envelopes were then mailed to all nonresponding businesses.

The survey instrument contained five sections: (I) business operation type (i.e. winery, brewery, distillery, cidery or other), (II) hard apple cider sales, (III) hard apple cider production practices, (IV) assistance needs or education needed, and (V) business characteristics. A copy of the survey instrument is provided in the Appendix. The survey instrument and survey procedures were reviewed and approved by the university institutional review board under UTK-IRB-17-03525-XM.

Results

A total of 34 survey responses were collected from the 238 businesses contacted. This result provided a response rate of 14.3 percent.

Nature of Responding Businesses

Surveyed businesses were asked to describe the nature of their operation. As shown in Figure 1, 15 respondents (30.6 percent of all responses) were breweries or brew pubs, 12 (24.5 percent) were distilleries, 11 (22.4 percent) were wineries, nine (18.4 percent) were cider makers, one (2 percent) was a meadery, and one was listed as other. Thirteen businesses indicated they did business in more than one category, hence the total of 49 responses. Businesses were asked about when their operation opened. If these values are compared with the percentage of businesses contacted by type, the percentage that were breweries among the respondents was lower than the contacted percentage, while the percentage that were cideries was higher. Responses provided in Figure 2 indicate the growing interest in the production of local, craft alcoholic products in Tennessee, with the majority having opened in 2018 or later. Despite the impact of COVID-19 on sales for virtually all businesses in 2020 and 2021, five respondents opened in 2020 and two opened in 2021.

We also asked businesses to indicate their profitability. Among 28 respondents, 18.5 percent indicated that they incurred a loss in 2019 (with 81.5 percent breaking even or making a profit), 17.9 percent indicated that they incurred a loss in 2020 (82.1 percent at least breaking even), but only 7.1 percent stated that they expected to lose money in 2021 (i.e., 92.9 percent expected to break even or make a profit) (Figure 3). This trend may reflect the maturity of newly established businesses into becoming profitable operations. It is interesting to note the majority did not indicate their business incurred a loss in 2020 despite the potential impact of COVID-19 on sales in that year. Likewise, our estimates of total sales for 29 responding businesses, as shown in Figure 4, showed relatively flat sales between 2019 and 2020, but an anticipated sales increase in 2021.

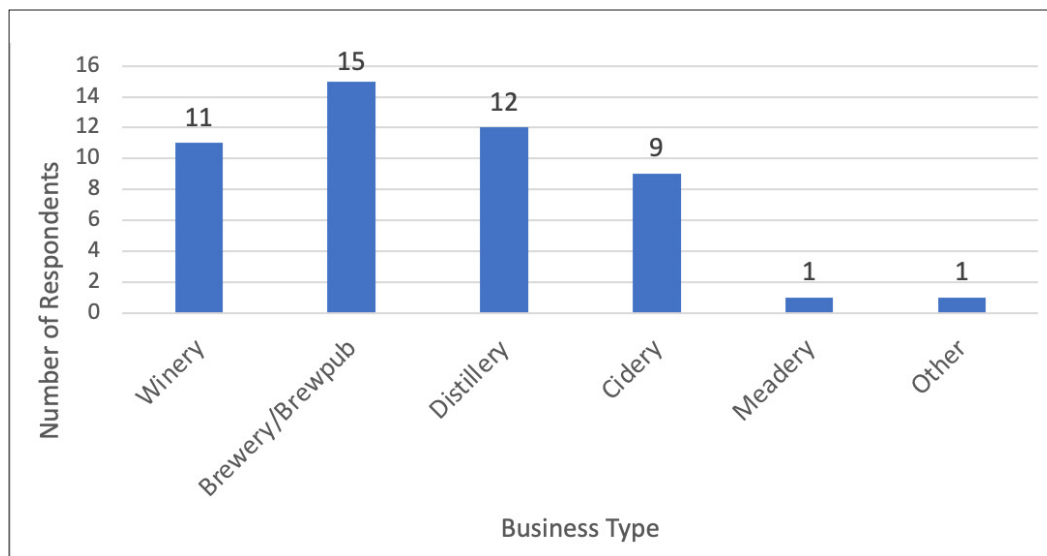


Figure 1. *Business Type as Indicated by Survey Respondents. (N=34)*

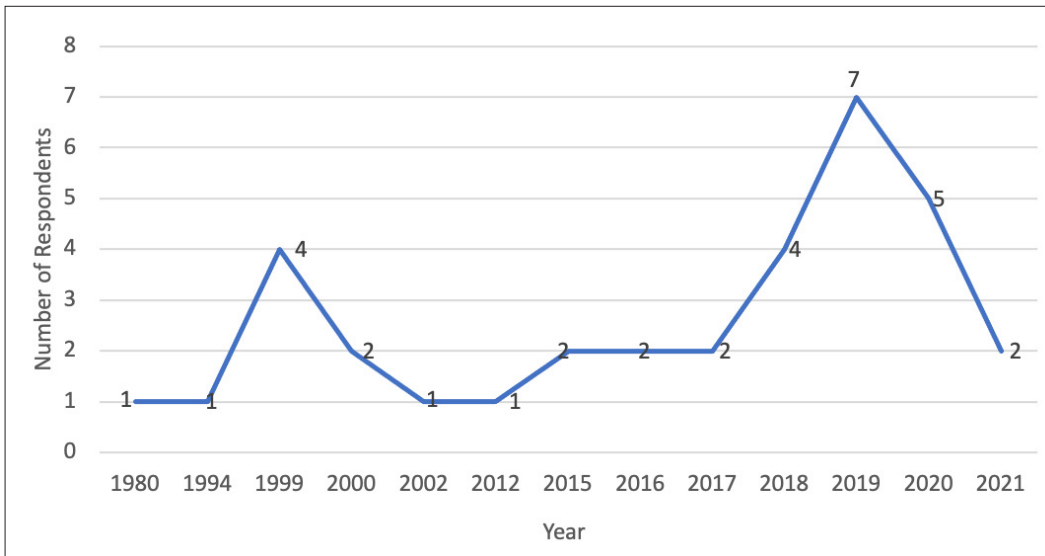


Figure 2. Year that Surveyed Businesses Opened. (N=34)

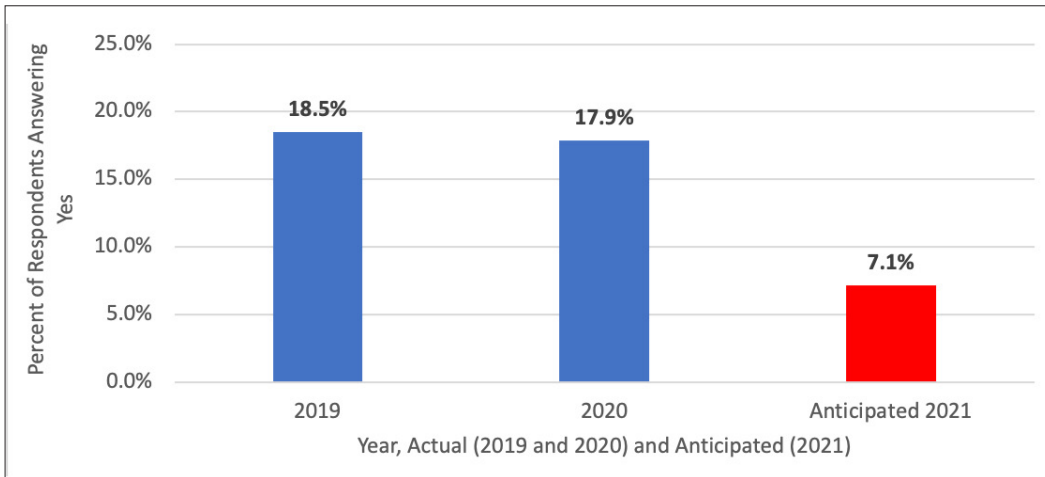


Figure 3. Response to the Questions My Business Lost Money in 2019, 2020 and I Expect It Will Lose Money in 2021. (N=26)

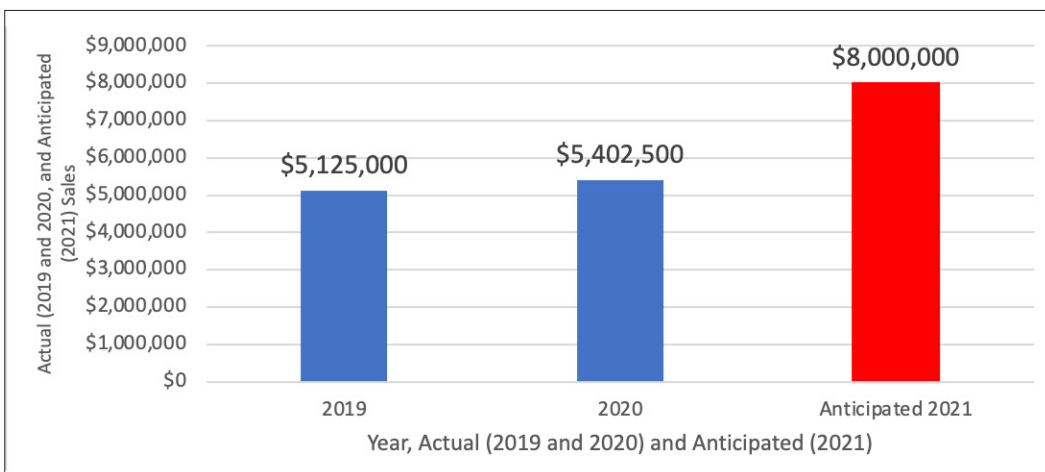


Figure 4. Estimated Value of Actual (2019 and 2020) and Anticipated Sales (2021) by Survey Responding Businesses. (N=29)

We also asked businesses about the impact of COVID-19 on their profitability and total sales. Survey responses as a whole showed a mixed picture where some businesses had better performance and others showed a decline in the performance of their business. In response to the question, “Compared with before COVID-19, what is the level of your operation’s net income?”, 32 percent responded that net income was somewhat lower, while 28 percent indicated that net income was somewhat higher (Figure 5). Only 12 percent indicated that profitability was much lower as a result of COVID-19. In response to the question, “Compared with before COVID-19, what do you anticipate your sales in 2021 will be?”, 36 percent stated that sales should be somewhat higher, 28 percent indicated that sales should be somewhat lower, 8 percent indicated that sales should be much higher, and only 4 percent indicated that sales should be much lower (Figure 6).

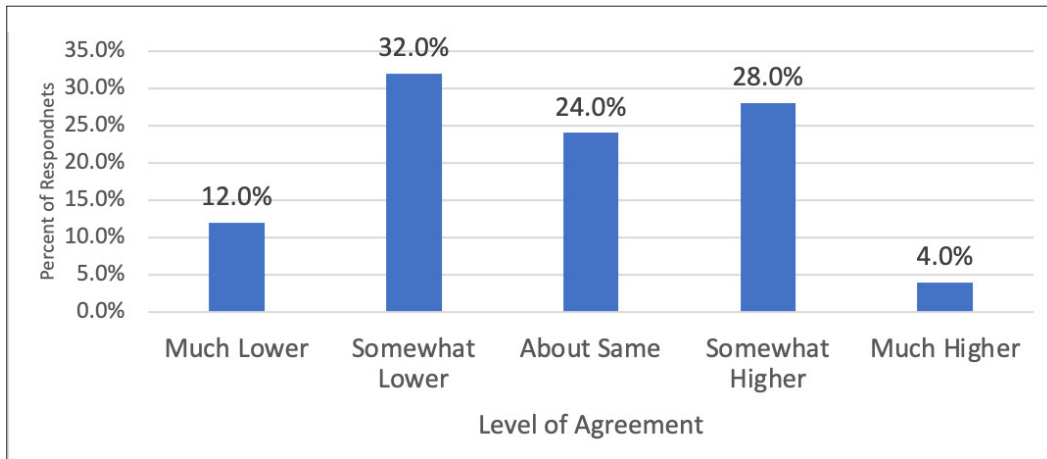


Figure 5. Operation Net Income Among Surveyed Businesses Response Compared with Before COVID-19. (N=25)

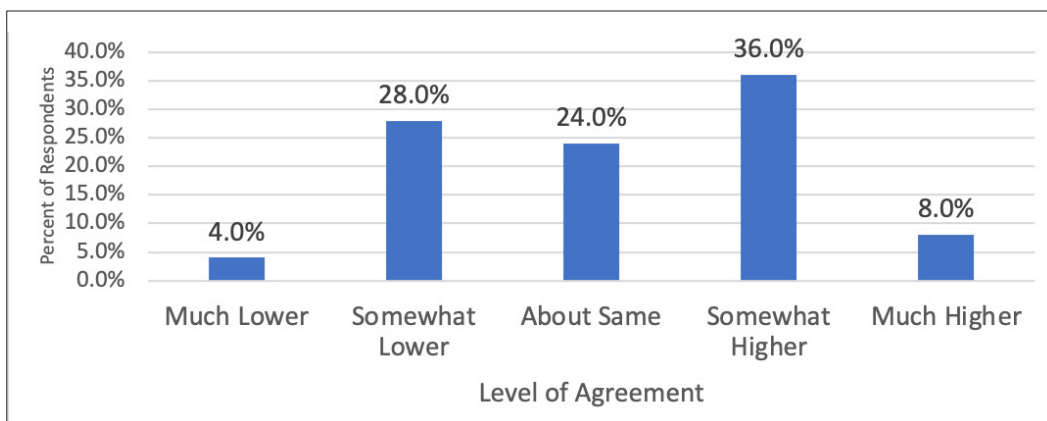


Figure 6. Anticipated 2021 Sales Among Surveyed Businesses Compared with Before COVID-19. (N=25)

Retail Environment for Tennessee-Made Hard Cider

Surveyed businesses were also asked to indicate their status with respect to selling hard apple cider. Among 34 respondents, 15 (44.1 percent) businesses currently sell hard apple cider, seven (20.6 percent) businesses do not currently sell hard apple cider but plan to in the future, and 12 (35.3 percent) businesses do not sell hard cider and do not plan to sell it in the future (Figure 7). Among those that did sell hard apple cider, four sold to wholesale outlets, three directly to bars and/or restaurants, three sold retail for on-site consumption, and five sold directly to consumers for at-home consumption (Figure 8). With respect to the types of containers for their hard apple cider sales (Figure 9), six respondents indicated sales by individual cans, five by pint size glasses, four or six pack cans were indicated by four businesses, and four businesses also indicated using growlers. With respect to the types of containers for their hard apple cider sales (Figure 9), six respondents indicated sales by individual cans, five by pint size glasses, four or six pack cans were indicated by four businesses, and four businesses also indicated using growlers. With respect to the types of containers for their hard apple cider sales (Figure 9), six respondents indicated sales by individual cans, five by pint size glasses, four or six pack cans were indicated by four businesses, and four businesses also indicated using growlers.

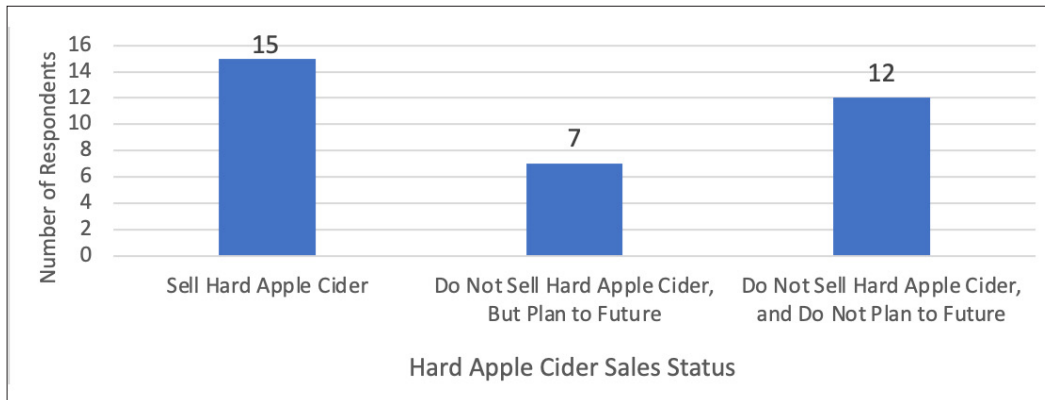


Figure 7. Hard Apple Cider Sales Status as Indicated by Survey Respondents. (N=34)

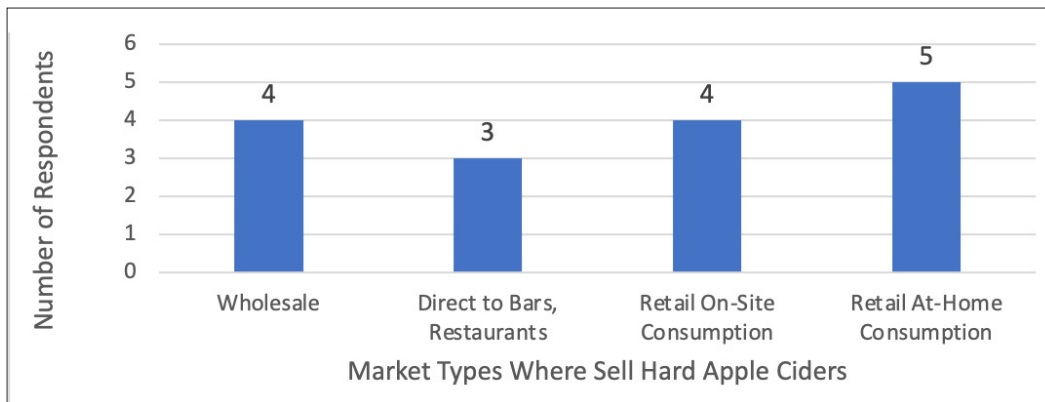


Figure 8. Hard Apple Cider Sales Market Types as Indicated by Survey Respondents. (N=16)

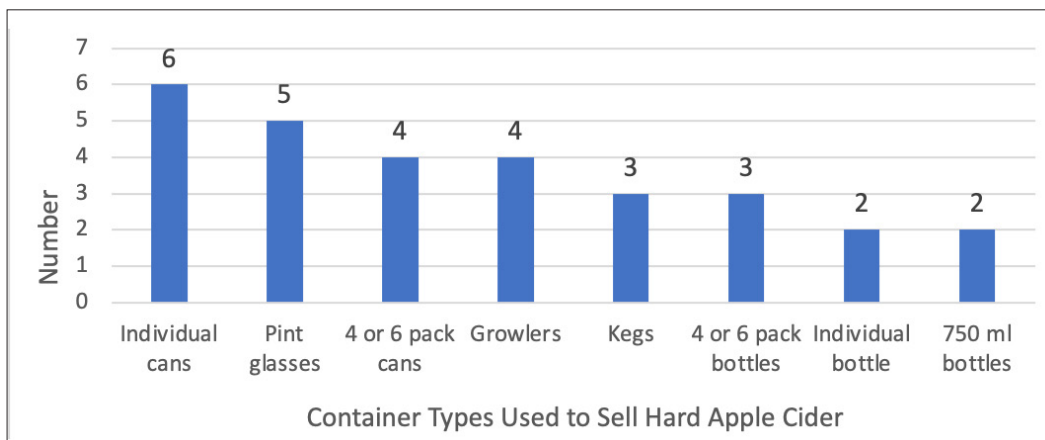


Figure 9. Container Types Used to Sell Hard Apple Cider by Respondents. (N=16)

In assessing the importance of different attributes to businesses' actual or future hard apple cider customers, responding businesses indicated relatively little variation in their perceived importance of the different attributes to consumers. As shown in Table 1, 52.6 percent of responding businesses felt that both alcohol content and flavored ciders were at least somewhat important to their customers. Over half believed that use of local apples or the hard apple cider being Tennessee-made, sparkling product, price and packaging type were somewhat or very important to their consumers. In contrast, about 40 percent felt that using heirloom apples was at least somewhat important. This could reflect that sellers are uncertain about consumers' familiarity with heirloom apples. However, additional research would be needed to verify this.

Table 1. Level of Importance of Each Attribute to Current or Future Hard Apple Cider Customers.

| Level of Importance | Number of Observations | Not important at all | Somewhat Unimportant | Neither | Somewhat Important | Very Important | Somewhat or Very Important |
|-----------------------|------------------------|----------------------|----------------------|---------|--------------------|----------------|----------------------------|
| Alcohol content | 19 | 5.30% | 21.10% | 21.10% | 36.80% | 15.80% | 52.60% |
| Flavored ciders | 19 | 5.30% | 21.10% | 21.10% | 36.80% | 15.80% | 52.60% |
| Uses Tennessee apples | 16 | 6.30% | 25.00% | 18.80% | 31.30% | 18.80% | 50.10% |
| Sparkling | 18 | 5.60% | 22.20% | 22.20% | 38.90% | 11.10% | 50.00% |
| Tennessee made | 18 | 5.60% | 22.20% | 22.20% | 33.30% | 16.70% | 50.00% |
| Price | 18 | 5.60% | 22.20% | 22.20% | 33.30% | 16.70% | 50.00% |
| Packaging type | 18 | 5.60% | 22.20% | 22.20% | 33.30% | 16.70% | 50.00% |
| Sweetness/Dryness | 17 | 5.90% | 23.50% | 23.50% | 29.40% | 17.60% | 47.00% |
| Uses heirloom apples | 15 | 6.70% | 26.70% | 26.70% | 26.70% | 13.30% | 40.00% |

Current and future sellers of hard apple cider indicated a growing level of interest in selling a Tennessee made product. As shown in Figure 10, on average, respondents indicated that 50.5 percent of their hard apple cider sales were from Tennessee-made hard apple cider in 2019, while 54.3 percent of such sales were Tennessee made hard apple ciders in 2020. Looking ahead, businesses predicted that 54.7 percent of their hard apple cider sales would be from Tennessee made cider in 2021 and 64.1 percent was anticipated in 2022. Additionally, among businesses that were not currently but planning to start selling hard apple cider in the future, 67.0 percent planned to sell a Tennessee made hard apple cider.

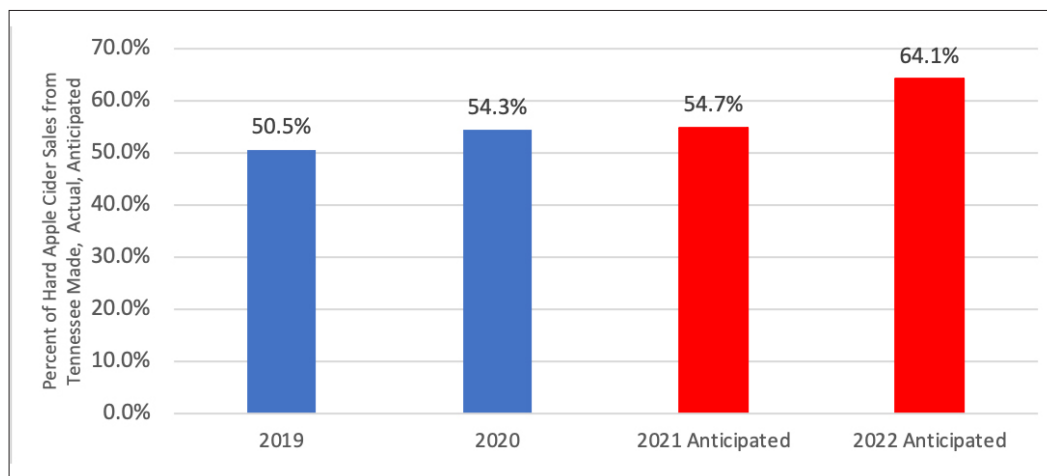


Figure 10. Percent of Hard Apple Cider Sales that Were Tennessee Made, Actual and Anticipated, 2019-2022. (N=13)

In terms of the impact of COVID-19 on locally made hard cider sales, surveyed businesses indicated an increase in customer interest after the COVID-19 pandemic. As shown in Figure 11, 36 percent of respondents indicated that customer interest was somewhat higher in locally made hard cider after COVID-19 hit, while only a total of 16 percent indicated customer interest was somewhat or much lower.

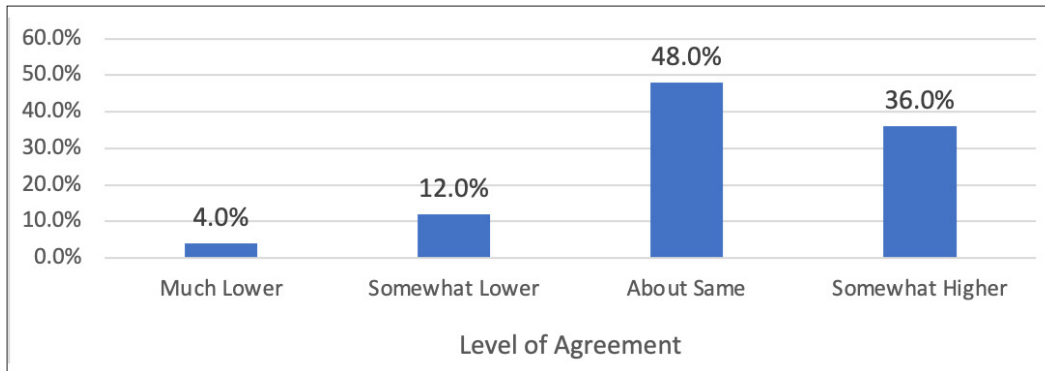


Figure 11. Interest Among Customers in Purchasing Local Hard Apple Ciders Compared with Before COVID-19. (N=25)

Business Lack of Interest

We also asked a series of questions regarding the reasons why businesses were not interested in selling Tennessee made hard apple cider. Analysis of this set of responses indicated that “not knowing where to get the product (Tennessee made hard apple cider),” “product cost,” or “lack of interest by customers” were less important. This set of results implies that educating businesses about where to source Tennessee made hard apple cider is an opportunity for growing the industry. As shown in Table 2, “not knowing where to source locally made hard apple cider” (indicated as at least somewhat important by 63.7 percent of respondents) and “planning to stick with the current product line” (at least somewhat important to 58.3 percent of respondents) were the most important reasons for not selling locally made hard apple cider. “Lack of customer interest” and “being too expensive” were the least important reasons for not selling the product (at least somewhat important to 36.4 percent of respondents for both questions).

Table 2. Reasons Why Businesses Not Interested in Selling Tennessee Made Hard Apple Cider.

| Reason | Very Unimportant | Somewhat Unimportant | Neither Important nor Unimportant | Somewhat Important | Very Important | Somewhat or Very Important |
|--|------------------|----------------------|-----------------------------------|--------------------|----------------|----------------------------|
| Don't know where to source locally made hard apple ciders | 18.20% | 0.00% | 18.20% | 45.50% | 18.20% | 63.70% |
| Plan to stick with our current product line (ex: beer only, wine only, etc.) | 16.70% | 8.30% | 16.70% | 33.30% | 25.00% | 58.30% |
| COVID-19 has made the industry less stable, but if improves, my business may become interested | 18.20% | 18.20% | 18.20% | 36.40% | 9.10% | 45.50% |
| Insufficient volumes available | 18.20% | 0.00% | 36.40% | 36.40% | 9.10% | 45.50% |
| Sell only national or larger regional hard apple cider brands | 27.30% | 0.00% | 27.30% | 36.40% | 9.10% | 45.50% |
| Not interested in selling hard apple ciders | 16.70% | 8.30% | 33.30% | 25.00% | 16.70% | 41.70% |
| Locally made hard apple ciders are too expensive for our customers | 27.30% | 0.00% | 36.40% | 27.30% | 9.10% | 36.40% |
| Customers would most likely not be interested in locally made hard apple ciders | 27.30% | 18.20% | 18.20% | 27.30% | 9.10% | 36.40% |

Note: 12 respondents for not interested in selling hard apple ciders and plan to stick with our current product line; 11 respondents for all other reasons.

Business Training Needs

Surveyed businesses were asked a series of questions regarding the helpfulness of various forms of assistance with respect to selling locally-made hard apple cider. These results are shown in Table 3. In general, surveyed businesses showed a strong interest in various forms of technical training or information across a variety of topics. These results speak to potential training programs and other forms of help that could be provided by UT Extension, industry groups or other business support organizations.

As shown In Table 3, assistance concerning “earning profits using local apples,” “sourcing local apples,” and “retail marketing” were seen as being the most helpful assistance. On average, across the 17 responding businesses, “assistance in making a profit using local apples” was seen as being very helpful (a score of 4 on a 5-point Likert scale), while assistance “sourcing local apples” and “retail marketing” were both seen as only slightly less than very helpful (each with an average of 3.94). For each of these three topics, a majority (nine out of 17) of businesses saw assistance as being extremely helpful. This set of results suggests that business assistance to build profitability, sourcing local input and develop retail marketing were assistance topics of particular interest to the businesses. Assistance for “accessing wholesale markets” and for “processing” were seen as the least useful. The lack of interest in assistance of how to access wholesale markets is probably due to the small size of most Tennessee alcohol product producers, while the latter result regarding processing could imply that businesses feel they, by and large, know how to make alcohol-based products. The relative importance of retail marketing assistance and unimportance of wholesale marketing assistance may reflect these businesses being smaller and focused on direct sales to end consumers to obtain profitability instead of selling products at wholesale prices. This result may also relate to Tennessee legal requirements for selling alcohol products to wholesalers which may decrease the potential and likely profitability of accessing markets such as grocery (Hughes and Rihn, 2022).

Table 3. Surveyed Business Responses Regarding Degree of Helpfulness of Information and/or Technical Assistance Types for Selling Locally Made Hard Apple Cider.

| Information/Technical Assistance Type | Not at all Helpful | Not Very | Somewhat Helpful | Very Helpful | Extremely Helpful | Mean Helpfulness Rating |
|--|---------------------------|-----------------|-------------------------|---------------------|--------------------------|--------------------------------|
| Earning Profits Using Local Apples | 1 | 1 | 4 | 2 | 9 | 4.00 |
| Sourcing Local Apples | 1 | 1 | 5 | 1 | 9 | 3.94 |
| Consumer Preference | 2 | 0 | 5 | 0 | 10 | 3.94 |
| Retail Marketing | 1 | 1 | 5 | 1 | 9 | 3.94 |
| Profitability | 0 | 2 | 6 | 3 | 6 | 3.76 |
| Sourcing Local Cider | 2 | 1 | 5 | 0 | 9 | 3.76 |
| Marketing | 1 | 3 | 4 | 1 | 8 | 3.71 |
| Retail Price | 1 | 3 | 4 | 2 | 7 | 3.65 |
| Legal Environment | 1 | 3 | 4 | 3 | 6 | 3.59 |
| Traditional Methods | 2 | 0 | 6 | 4 | 5 | 3.59 |
| Processing | 1 | 2 | 6 | 3 | 5 | 3.53 |
| Wholesale Marketing | 2 | 3 | 5 | 2 | 5 | 3.29 |

Summary and Conclusions

The hard apple cider making industry is emerging in Tennessee. As such, information about current and potential industry participants, their situation, plans and assistance needs are helpful for understanding the size of the industry, its potential growth and future assistance needs. We sought to fill the gap in knowledge for how actual and potential vendors of hard apple cider perceive the market potential for the product. In particular, information generated about product attributes and packaging is meant to inform current producers and individuals interested in starting a cider making operation. By doing so, we aim to develop a greater understanding of the Tennessee market for locally made hard apple cider and explore ways to facilitate its growth.

The majority of the businesses responding to this survey either currently sell or planned to sell hard apple ciders. Among those that did sell hard apple cider, their primary market was selling directly to consumers. This result suggests that future growth in the industry may likely come from direct sales to consumers. Among producers who did not market hard apple cider, not knowing where to source local hard apple ciders and plans to stay with their current product lines were cited as key reasons. This result suggests that more information about sourcing locally made hard apple ciders and/or potential for making local hard apple ciders to current alcoholic beverage sellers may be helpful in growing the industry. Many of the firms selling hard apple ciders sold locally made hard apple ciders. Also, among those not currently selling hard apple ciders but planning to, there was strong interest in selling locally made hard apple ciders.

In general, surveyed businesses showed a strong interest in various forms of technical training or information across a variety of topics related to selling hard apple ciders. These results speak to potential training programs and other forms of support that could be provided by UT Extension or by others. Assistance with respect to making a profit using local apples, sourcing local apples and retail marketing was seen as being especially useful.

References

- Cider Market. 2019. Global Cider Maker Database.
- Hughes, David W., and Alicia Rihn. 2022. "Analysis of Tennessee Wine and Grape Industry Trends, 2022." Report to Tennessee Wine and Grape Board.
- Pick Tennessee Products. 2021. "Fermented Foods & Beverages." Tennessee Department of Agriculture. <https://www.picktnproducts.org/listview/fermented-foods-beverages.html>
- Tennessee Craft Brewers Guild . 2021. "Guild Community." <https://www.tncraftbrewers.org/guild-members/#!directory>
- Tennessee Department of Tourist Development. 2022. <https://industry.tnvacation.com/industry/research>
- Tennessee Distillers Guild. 2021. "Distilleries." <https://tndistillersguild.org/distilleries/>
- Tennessee Farm Winegrowers Alliance. 2021. "Members." <https://tnwineindustry.com/>
- Tennessee Whiskey Trail. 2021. "Distilleries." <https://www.tnwhiskeytrail.com/distilleries/>

Appendix
Survey Instrument
Selling Locally Made Hard Apple Ciders

I. Your Business Operation Type

1. Your business could be described as (*check all that apply*):

- Winery
- Brewery/Brewpub
- Distillery
- Cidery
- Other, please describe: _____

2. In what year was your business opened? (*Use 4-digit year such as 2019*) _____

3. In what county is your business located primarily? _____

II. Hard Apple Cider Sales by Your Business

4. Please circle the statement that best describes your business current local hard apple cider sales situation:

- a. We do not currently sell hard apple ciders and do not plan to do so in the future (*Continue to Question 5*).
- b. We do not currently sell hard apple ciders, but plan to do so in the future (*Skip to Question 11*).
- c. We currently sell apple ciders. (*Skip to Question 6*).

5. Please indicate your level of agreement with statements of why your business is NOT interested in selling hard apple ciders and then *skip to Question 22 and continue*.

| | 1=strongly disagree | 2=somewhat disagree | 3=neither agree nor disagree | 4=somewhat agree | 5=strongly agree |
|--|---------------------|---------------------|------------------------------|------------------|------------------|
| Not interested in selling hard apple ciders | 1 | 2 | 3 | 4 | 5 |
| Locally made hard apple ciders are too expensive for our customers | 1 | 2 | 3 | 4 | 5 |
| Customers would most likely not be interested in locally made hard apple ciders | 1 | 2 | 3 | 4 | 5 |
| Plan to stick with our current product line (ex: beer only, wine only, etc.) | 1 | 2 | 3 | 4 | 5 |
| Insufficient volumes available | 1 | 2 | 3 | 4 | 5 |
| Sell only national or larger regional hard apple cider brands | 1 | 2 | 3 | 4 | 5 |
| Don't know where to source locally made hard apple ciders | 1 | 2 | 3 | 4 | 5 |
| COVID-19 has made the industry less stable, but if improves, my business may become interested | 1 | 2 | 3 | 4 | 5 |
| Other, please describe. _____ | 1 | 2 | 3 | 4 | 5 |

Please answer the following questions about your current hard apple cider sales in 2019, 2020, and anticipated for 2021 and 2022. If you do not sell hard apple ciders, but are planning to do so, *skip to Question 11 and answer according to your planned sales.*

6. Please indicate the year you began selling hard apple cider, gallons you sold the first year, and first-year sales.

Year _____ Gallons _____ Sales \$ _____

7. What were your sales and gallons sold of hard apple ciders (local and non-locally made) in 2019, 2020, and anticipated for 2021 and 2022? *Please indicate your answer for each year.*

| | | | |
|----------------------------|----------------------------|--|--|
| 2019 Sales: \$ _____ | 2020 Sales: \$ _____ | 2021 Anticipated Sales: \$ _____ | 2022 Anticipated Sales: \$ _____ |
| 2019 gallons: _____ gal | 2020 gallons: _____ gal | 2021 Anticipated gallons: _____ gal | 2022 Anticipated gallons: _____ gal |

8. Please indicate the type of outlet you *primarily* sold through in 2019, 2020, and anticipate for 2021 (*choose one for each year*).

| | 2019 | 2020 | Anticipated 2021 |
|---|--------------------------|--------------------------|--------------------------|
| Wholesale to liquor, wine stores, grocery stores, etc. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Direct sales to bars and restaurants | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Direct sales to wineries, brewpubs, distilleries, or other cideries | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Retail sale for on-site consumption | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Retail sale for at-home consumption | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Other, please describe: _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

9. What percent of your businesses' hard apple cider sales in 2019 and 2020 were, and anticipated sales for 2021 do you expect to be, Tennessee made hard apple ciders?

2019 _____% Tennessee made (indicate a percentage between 0% and 100%)
 2020 _____% Tennessee made (indicate a percentage between 0% and 100%)
 Anticipated 2021 _____% Tennessee made (indicate a percentage between 0% and 100%)
 Anticipated 2022 _____% Tennessee made (indicate a percentage between 0% and 100%)

10. What types of containers do you currently sell hard apple ciders in? (*Check all that apply*)

_____ individual bottles _____ individual cans _____ 4 or 6 pack bottles
 _____ 4 or 6 pack cans _____ pint glasses _____ 750 ml bottles
 _____ kegs _____ growlers
 _____ other (please describe: _____)

<<<<Skip to Question 12 if you are already selling hard apple ciders>>>>

11. If you are not currently selling hard apple ciders, but plan to do so, please complete the information below

- a. Year plan to begin selling hard apple ciders (4-digit year) _____
- b. Please indicate the gallons of hard apple cider that your business plans to sell in the year you specified above. *If don't know or are unsure, skip this question.*
_____ Gallons
- c. Please indicate the anticipated sales of hard apple cider that your business plans in the year you specified above. *If don't know or are unsure, skip this question.*
\$ _____ Sales
- d. Percent that will be locally (Tennessee) made hard apple ciders _____ %
- e. Percent of hard apple ciders you will make on-site _____ %
- f. What type of outlets do you anticipate selling hard apple ciders through initially? *(Check each)*
 _____ Wholesale to liquor, wine stores, grocery stores, etc.
 _____ Direct sales to bars and restaurants
 _____ Direct sales to wineries, brewpubs, distilleries, or other cideries
 _____ Retail sale for on-site consumption
 _____ Retail sale for at-home consumption
 _____ Other (Please describe: _____)

12. Please indicate how important you believe each attribute is to your hard apple cider consumers (or potential future consumers).

| | 1=strongly disagree | 2=somewhat disagree | 3=neither agree nor disagree | 4=somewhat agree | 5=strongly agree | Don't know |
|----------------------------------|---------------------|---------------------|------------------------------|------------------|------------------|------------|
| Tennessee made | 1 | 2 | 3 | 4 | 5 | 6 |
| Price | 1 | 2 | 3 | 4 | 5 | 6 |
| Uses heirloom apples | 1 | 2 | 3 | 4 | 5 | 6 |
| Uses Tennessee apples | 1 | 2 | 3 | 4 | 5 | 6 |
| Packaging type | 1 | 2 | 3 | 4 | 5 | 6 |
| Sweetness/dryness | 1 | 2 | 3 | 4 | 5 | 6 |
| Alcohol content | 1 | 2 | 3 | 4 | 5 | 6 |
| Sparkling | 1 | 2 | 3 | 4 | 5 | 6 |
| Flavored ciders | 1 | 2 | 3 | 4 | 5 | 6 |
| Other, please describe: _____ | 1 | 2 | 3 | 4 | 5 | 6 |

13. Please indicate which option best reflects your business operations' locally made (Tennessee) hard apple cider sales (planned sales if you do not currently sell, but plan to sell in the future).

- Purchase all locally made hard apple ciders sold and NOT PLAN TO MAKE *(Skip to Question 21 and continue)*
- MAKE OWN hard apple cider *(Continue to Question 14)*
- Currently DO NOT MAKE, but PLAN TO MAKE in future *(Continue to Question 14)*

III. Making Hard Apple Ciders

14. Please indicate the sales from and gallons sold of **hard apple cider that your business MADE** (if do not sell yet, but plan to, indicate the planned gallons in part b).

| | | Sales (\$) | Gallons |
|----------------|------|------------|---------|
| A. Past | 2019 | | |
| | 2020 | | |
| B. Anticipated | 2021 | | |
| | 2022 | | |

15. What percent of the hard apple cider your operation MAKES (or plans to MAKE) comes from?

| | 2019 | 2020 | Anticipated 2021 | Anticipated 2022 |
|--|------|------|------------------|------------------|
| Pressed from apples grown on site | % | % | % | % |
| Pressed from apples from other Tennessee growers | % | % | % | % |
| Pressed from apples grown outside of Tennessee | % | % | % | % |
| Made from juice purchased in Tennessee | % | % | % | % |
| Made from juice purchased outside of Tennessee | % | % | % | % |
| Other, please describe: _____ | % | % | % | % |
| Total | 100% | 100% | 100% | |

<<<If you do not yet make hard apple cider, please skip to Question 21>>>

16. If you buy juice concentrate, about what do you pay per gallon? _____\$/gallon

17. Do you buy juice under contract? _____Yes _____No

18. If you buy apples for pressing, about what do you pay per bushel? _____\$/bushel

19. Do you buy apples under contract? _____Yes _____No

20. If you grow apples for cider making what is your approximate cost per unit

_____ \$/bushel (if sell apples) _____ \$/gallon (if sell pressed juice)

IV. Assistance Needs

21. Please indicate helpfulness of assistance in making decisions about selling locally made hard apple ciders

| | 1=strongly disagree | 2=somewhat disagree | 3=neither agree nor disagree | 4=somewhat agree | 5=strongly agree |
|--|---------------------|---------------------|------------------------------|------------------|------------------|
| Information and/or technical assistance regarding: | 1 | 2 | 3 | 4 | 5 |
| Retail pricing information for selling locally made hard apple ciders | 1 | 2 | 3 | 4 | 5 |
| Equipment and processing techniques required for making hard apple cider | 1 | 2 | 3 | 4 | 5 |
| Profitability analysis of making hard apple cider | 1 | 2 | 3 | 4 | 5 |
| Regulations and laws associated with making hard apple cider | 1 | 2 | 3 | 4 | 5 |
| Marketing of locally made hard apple ciders | 1 | 2 | 3 | 4 | 5 |
| Information for sourcing locally made hard apple ciders | 1 | 2 | 3 | 4 | 5 |
| Information for sourcing locally grown cider apples | 1 | 2 | 3 | 4 | 5 |
| History of traditional cider making methods in the region | 1 | 2 | 3 | 4 | 5 |
| Consumer preferences for hard apple ciders in the region | 1 | 2 | 3 | 4 | 5 |
| Profitability analysis of buying locally made hard apple ciders for sale at retail | 1 | 2 | 3 | 4 | 5 |
| Wholesale marketing for hard apple cider | 1 | 2 | 3 | 4 | 5 |
| Retail marketing for hard apple cider | 1 | 2 | 3 | 4 | 5 |
| Other, please describe: _____ | 1 | 2 | 3 | 4 | 5 |

V. Business Characteristics

Next, we are going to ask a few more questions about your business operation. All individual results will be held confidential and only summaries will be used.

22. Which of the following best describes your business? (*Check one*)

Sole proprietorship
 A partnership
 A cooperative
 A corporation
 Other (Please describe: _____)

23. Which of the following describes your operation's *total sales (all products)* for 2019, 2020, and anticipated for 2021 and 2022 (before taxes)? (Mark the answer with an 'X' for each year)

| | 2019 | 2020 | Anticipated 2021 | Anticipated 2022 |
|---------------------------|------|------|------------------|------------------|
| a. \$1-\$9,999 | | | | |
| b. \$10,000-\$19,999 | | | | |
| c. \$20,000-\$29,999 | | | | |
| d. \$30,000-\$39,999 | | | | |
| e. \$40,000-\$49,999 | | | | |
| f. \$50,000-\$74,999 | | | | |
| g. \$75,000-\$99,999 | | | | |
| h. \$100,000-\$149,999 | | | | |
| i. \$150,000-\$299,999 | | | | |
| j. \$300,000-\$499,999 | | | | |
| k. \$500,000-\$999,999 | | | | |
| l. \$1 million or greater | | | | |
| m. Prefer not to answer | | | | |
| n. No sales | | | | |

24. Which of the following describes your operation's *net income (revenue minus all cost and expenses)* for 2019, 2020, and anticipated 2021 and 2022? (Mark the answer with an 'X' for each year)

| | 2019 | 2020 | Anticipated 2021 | Anticipated 2022 |
|-----------------------------|------|------|------------------|------------------|
| a. Negative (less than \$0) | | | | |
| b. \$0-\$9,999 | | | | |
| c. \$10,000-\$19,999 | | | | |
| d. \$20,000-\$29,999 | | | | |
| e. \$30,000-\$39,999 | | | | |
| f. \$40,000-\$49,999 | | | | |
| g. \$50,000-\$74,999 | | | | |
| h. \$75,000-\$99,999 | | | | |
| i. \$100,000-\$149,999 | | | | |
| j. \$150,000-\$299,999 | | | | |
| k. \$300,000-\$499,999 | | | | |
| l. \$500,000-\$999,999 | | | | |
| m. \$1 million or greater | | | | |
| n. Prefer not to answer | | | | |
| o. No business that year | | | | |

25. Please indicate your firm's situation:

| | 1=much lower | 2=somewhat lower | 3=about the same | 4=somewhat higher | 5=much higher |
|--|--------------|------------------|------------------|-------------------|---------------|
| Compared with before COVID-19, what is the level of your operation's net income | 1 | 2 | 3 | 4 | 5 |
| Compared with before COVID-19 what do you anticipate your sales in 2021 will be | 1 | 2 | 3 | 4 | 5 |
| Compared with before COVID-19, what is the interest level in purchasing local hard ciders by your firm's customers | 1 | 2 | 3 | 4 | 5 |

END of SURVEY.

Thank you for your participation!

(Please place your completed survey in the postage paid envelope and return to the study researchers by mail).



UTIA.TENNESSEE.EDU

Real. Life. Solutions.™