

Assessment of the Cider Industry in Washington State: Cider Apple Production and Cider Making

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Introduction

Cider, by the simplest definition, is fermented apple juice and it is often referred as 'hard cider' in the United States. Cider must contain more than 0.5% to less than 7% of alcohol by volume; if the alcohol level is more than 7%, cider is considered apple wine and is taxed differently. Published and publicly available statistics on cider are quite limited. While there are data on the total volume of cider produced in the state, the value of production is unknown. USDA NASS does not presently collect production-related data on specialty cider apples at the state nor national level. This goal of this project was to gain a better understanding of the Washington cider industry.



Methodology

Online surveys were disseminated to cider apple growers and cider producers through the Northwest Cider Association (NWCA) and face-to-face interviews in November 2014 through March 2015. Responses were obtained from 9 cider makers and 10 cider apple growers.

Questions in the surveys included the following:

- *Cider producer survey* - number and size of cideries; cider apple varieties that are used versus varieties that are preferred in making cider; source of cider apples; styles of cider produced; existing and potential barriers to production of cider, now and into the future.
- *Cider apple grower survey* - number and size of farms that grow cider apples; farm's location; cider apple varieties grown; existing and potential barriers to production.

Cider Production

Production of bottled cider in Washington, on which taxes were paid, was about 56,600 gallons in 2008, and by 2014 this had risen to over 418,000 gallons; a 40% growth rate per year on average. This production accounted for 0.9% of the total U.S. cider production in 2008 and 0.9% in 2014 (U.S. Department of Treasury-Alcohol and Tobacco Tax and Trade Bureau, 2008-2014). Table 1 summarizes the responses of surveyed cider producers in Washington regarding production in 2013-2014, targeted growth, and marketing channels.

Table 1. Production and marketing of cider (n=8).

Production and marketing channels	Average	Median	Standard deviation
Cider production in gallons			
2013 cider production	17,125	8,000	18,168.91
2014 cider production (estimate)	44,829	15,000	79,922.14
Target growth per year in the next 5 years relative to 2013 production	157%	130%	1.24
Cider sold to each marketing channel (as % of total cider produced)			
Retail/Tasting Room/Online/Mail			
Order	18%	9%	19.16
Wholesale	37%	33%	33.14
Distributor	45%	46%	42.87

Other Key Results from the Cider Producer Survey

- Eight of the 9 respondents primarily use dessert apples in making cider (Table 2).
- 44% of the respondents grow their own apples for cider making, and buy from other growers in WA. Others outsource all the apples they use from WA growers (Table 3). The willingness to pay \$0.35-\$0.59/lb put desired cider apples at premium over some dessert apples.
- The limited supply of specialty cider apple varieties is a significant obstacle to cider producers in Washington (Table 4).

Table 2. Apples used in cider making, as percentage of total (n=9).

Apple variety	Average	Median	Std dev
Cider apple varieties	17%	6%	0.30
Dessert apple varieties	83%	94%	0.30

Table 3. Main cider apple varieties outsourced and desired by cider producers (n=6).

Cider apple variety	Category	Respondents (No.) that outsourced the cider apple variety	Price paid for outsourced apples (\$/lb)	Respondents (No.) that desire the cider apple variety*	Willingness to pay for desired apples (\$/lb)
Varieties outsourced					
Brown's Apple	Sharp	2	\$0.25-\$0.34		
Crab apple	Bittersharp	2	<\$0.25		
Dabinett*	Bittersweet	2	\$0.25-\$0.34	3	\$0.35-\$0.39 (1)* \$0.40-\$0.44 (1) \$0.50-\$0.59 (1)
Fillabarrel	Bittersweet	1	\$0.25-\$0.34		
Foxwhelp	Bittersharp	1	\$0.25-\$0.34		
Golden Russet*	Sharp	1	\$0.25-\$0.34	1	\$0.35-\$0.39
Kingston Black*	Bittersharp	2	\$0.25-\$0.34	3	\$0.35-\$0.39 (1) \$0.40-\$0.44 (1) \$0.50-\$0.90 (1)
Manchurian crab apple	Bittersharp	1	>\$0.59		
Michelin	Bittersweet	1	\$0.25-\$0.34		
Porter's Perfection*	Bittersharp	1	\$0.25-\$0.34	2	\$0.35-\$0.39 (1) \$0.40-\$0.44 (1) \$0.50-\$0.59 (1)
Yarlington Mill*	Bittersweet	1	\$0.25-\$0.34	3	\$0.35-\$0.39 (1) \$0.40-\$0.44 (1) \$0.50-\$0.59 (1)
Other:					
Mixed bittersweets		2	\$0.35-\$0.50 (1)		
Mixed variety		2	\$0.25-\$0.34 (1) \$0.35-\$0.39 (1) \$0.50-\$0.59 (1)		
Not specified		1	\$0.35-\$0.39		
Varieties not outsourced but are desired by cider producers					
Brown Snout*	Bittersweet			1	\$0.50-\$0.59
Columbia crab*	Bittersharp			1	\$0.50-\$0.59
Harrison*	Sharp			1	\$0.50-\$0.59
Hewe's crab*	Bittersharp			1	\$0.50-\$0.59
Nehou*	Bittersweet			1	\$0.50-\$0.59
Stoke red, any red-fleshed variety*				2	
Any bittersweet/bittersharp*				1	

* Numbers in parentheses refer to the number of respondents indicating the particular price range in cases when this number does not directly match those in the third and fifth columns of the table.

* Specialty cider apple varieties that are desired by producers but are not currently used or are not available for purchase (because the variety is unavailable or present supply is limited).

Table 4. Barriers to start, maintain or expand hard cider production (n=9).

Barrier	Average Rating	Standard deviation
Lack of information (e.g., market research, demand for specific cider apple varieties)	1.78	1.09
Availability of desired cider apple varieties	3.22	0.83
Cost of cider apple varieties	2.14	1.07

Note: 1 - not an obstacle; 2 - minor obstacle; 3 - medium obstacle; 4 - major obstacle.

Cider Apple Production

There were an estimated 204 acres of cider apples produced in the state in 2010, and 256 acres in 2011 (NABC, 2012). These acreages were low compared to 149,500 bearing acres of dessert apples produced in the state, on average, during the same period (USDA NASS, 2014). The area of cider apples grown by survey respondents was between less than 1 and up to 2 acres, and individual varieties were grown in less than 1 acre areas.



Key Results from the Cider Apple Grower Survey

- The top 3 varieties grown are Yarlington Mill, Kingston Black and Dabinett (Table 5).
- The reasons that most respondents grow cider apples were: it is a niche market (n= 8); it is profitable (n=5); and/or it is part of a crop diversification program (n=4).
- Seven respondents indicated plans of expanding cider apple production in the next 5 years, ranging from 1 to 10 additional acres of mixed cider apple varieties.
- Five main issues were identified as barriers to producing cider apples, and all, except the lack of market information, were rated between minor obstacle and medium obstacle (Table 6).

Table 5. Top five cider apple varieties grown (n=9).

Cider apple variety	Category	No. of respondents growing the variety	Price received (\$/lb)
Brown's Apple	Sharp	2	-
Dabinett	Bittersweet	5	\$0.45-40.64 (2)*
Kingston Black	Bittersharp	6	\$0.25 (1) \$0.45-\$0.64 (2)
Porter's Perfection	Bittersharp	2	-
Yarlington Mill	Bittersweet	7	\$0.30 (1) \$0.45-\$0.64 (2)

* Numbers in parentheses refer to the number of respondents indicating the particular price or price range. For Brown's Apple, one of the respondents did not provide the information and the other indicated they do not sell the apples that they grow. For Porter's Perfection, no respondents provided the selling price.

Table 6. Barriers to start, maintain or expand cider apple production (n=10).

Barrier	Average Rating	Standard deviation
Lack of market information (e.g., price paid per variety, demand for specific hard cider apple varieties)	1.89	1.67
Lack of workers or farm labor	2.40	0.97
Prices paid for inputs	2.44	1.13
Prices received for hard cider apples	2.38	1.30
Obtaining cider apple trees from nursery	2.44	1.24

Note: 1 - not an obstacle; 2 - minor obstacle; 3 - medium obstacle; 4 - major obstacle.

Additional Information and Acknowledgment

- Although survey response was low, responses provide preliminary indications about: the specialty cider apple varieties currently grown and used for cider production in Washington; cider apple varieties desired by cider producers but are in short supply; the growth potential of the industry; and factors that limit the industry's growth.
- More information about cider research at WSU and the U.S. can be found on the website: <http://www.cider.wsu.edu>.
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