

# Schilling Cider: Changing the Craft Cider Industry

## One Can at a time

It's November 19, 2021. Colin Schilling and Mark Kornei, co-founders of Schilling Cider are digesting an announcement from Ball Corporation, one of Schilling's main suppliers of the printed aluminum cans they rely on to package their craft hard cider. Ball has announced that effective January 1, 2022 they:

- Are raising their minimum order to five truckloads per stock keeping unit (SKU). The previous minimum was only a single truckload.
- Will no longer warehouse inventory on behalf of their large customers.

This has major implications for how Schilling manages their inventory and plans their product mix. However, it has even more profound implications for the entire craft industry. Very early in their history Schilling was one of the first cider companies in the U.S. to use aluminum cans to package cider. They did so because aluminum cans are a more cost effective and environmentally responsible form of packaging than the incumbent standard—glass bottles, since they are lighter and easier to effectively recycle.

Ball's announcement directed customers who could not meet its new minimum to a group of distributors with the ability to “shrink sleeve” cans (see Exhibit 1 for the full announcement). Preprinted cans have the logo and labeling of the product printed directly on the can. Shrink sleeving involves printing the logo and labeling on specially treated plastic film and then using heat to shrink the film around the can. The increased plastic in the recycling stream complicates the aluminum recycling process making it less economical. It also poses a variety of environmental challenges including increased hazards to workers and reduced air quality due to the toxins generated during the process.<sup>1</sup> Thus, shrink sleeving greatly reduces the benefits of aluminum cans vs. glass bottles.

As a leader in the movement to aluminum cans Schilling feels an obligation to address this issue. But how?

### Schilling Cider

Colin and Mark met their freshman year and both decided to attend the Willamette University Atkinson Graduate School of Management MBA program. They wanted to start a business together, but felt they first needed some practical experience. After graduating in 2012 Colin went to work for Avanade Consulting, a global professional services company providing IT

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<sup>1</sup> The aluminum association <file:///C:/Users/emaltz/Downloads/4%20keys%20to%20aluminum%20recycling.pdf>. Note, an alternative to preprinting and shrink sleeving is to brand cans through “stickering”. This is slightly different than shrink sleeving because it only applies the specialty film on part of the can. However, it is a process that poses similar problems because it still uses the specialty treated film. For the rest of this case we will refer to any process that uses specialty film as shrink sleeving.

consulting and services focused on the Microsoft platform, and based out of Seattle, Washington. Mark went to work for Silicon Valley Bank in Palo Alto, California. His role worked with start-up companies to provide debt solutions including growth capital, receivables financing, and recurring revenue based loans.

Colin learned a lot working for Avande, but the experience also reinforced his desire to start his own company. So, after about five months he contacted Mark, who was also excited by the prospect of working together on a new venture. As the friends discussed their passions and expertise, the idea of starting a craft cider company particularly resonated with them. Thus, in November of 2012, they founded Schilling Cider LLC with a “cash hoard” of \$30,000, and by January, 2013 they had quit their jobs to work full time on the startup.

### Schilling Cider: The Early Entrepreneurial Years (2013-2014)

The idea for Schilling Cider came from Colin’s childhood in Idaho. Colin started making fermented cider before he was legally able to drink it. His parents crafted their own cider when he was growing up and it became a hobby that he pursued through college. In addition, his great grandfather started a successful spice company and so he had an appreciation for the potential of marketing consumer products. The timing for entering the craft cider market seemed right. The leading hard cider brand, Angry Orchard, was introduced while Colin and Mark were at college, so the industry was beginning to be established.

### Committing to Cans

At the time, craft hard cider was sold almost exclusively in bottles (see Exhibit 2). The conventional wisdom was that bottles signaled higher quality and better taste to the consumer. Moreover, using cans presented production challenges as they are more challenging to fill and use different equipment than bottles.<sup>2</sup> Moreover, the amount of time that it takes to affix labels to cans, the labeling lead time, is significantly longer than it is for bottles.

Nevertheless, there were several reasons why Colin and Mark were convinced that the future of craft hard cider was cans. Aluminum cans are less expensive to produce than bottles. An aluminum can is also much lighter than a glass bottle. This means that aluminum cans have lower shipping costs per gallon of liquid transported. From an environmental standpoint this means less fuel and packaging is used to transport the same amount of liquid. Thus, the carbon footprint of cider shipped in cans is lower.

Further, preprinted aluminum containers are highly reusable. For every pound of aluminum cans recycled—90% of the aluminum can be put back into the can supply chain.<sup>3</sup> While theoretically recycled glass is 100% reusable in practice it is a different story. Most manufacturers require recycled glass to be sorted by color in order to produce high quality glass bottles and jars. Glass is difficult to sort when broken, and if broken down too finely, glass may become too difficult to

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<sup>2</sup> see [https://www.youtube.com/watch?v=VYJ\\_0R14dDg&ab\\_channel=HOWIT%27SMADE](https://www.youtube.com/watch?v=VYJ_0R14dDg&ab_channel=HOWIT%27SMADE) for a video of how aluminum cans are filled with beverages

<sup>3</sup> <https://www.theverge.com/2019/9/12/20862775/aluminum-recycling-water-tech-plastic-manufacturing-cocacola-pepsi-apple>

reprocess. When recyclers find it too difficult or expensive to separate out glass, they send the entire stream to the landfill.<sup>4</sup>

Cans also do a better job of keeping oxygen and light away from the beverage, thus reducing the spoilage. Finally, shrinkage (product loss) due to damage is reduced for cans because aluminum is not as brittle as glass, and also because when cans are packed into cases they create a very secure package. While the economic benefits were certainly important, the potential to create a higher quality product in a more environmentally sustainable way particularly appealed to Colin and Mark, as they were committed to making the best craft cider as sustainably as possible.

Colin and Mark had also noticed how the more developed craft beer market, which exclusively used bottles in its early years, was starting to migrate towards cans for similar reasons.<sup>5</sup> They were confident that the acceptance by consumers of craft beer in cans would spill over to the craft cider market as it matured. The wildcard was when this migration would occur.

### Establishing a Niche within a Niche Market

In 2012 Boston Beer introduced Angry Orchard hard cider nationwide with its three flagship flavors, Crisp Apple, Traditional Dry, and Apple Ginger.<sup>6</sup> At the time the total hard cider market was estimated to be about \$50 Million<sup>7</sup>. The brand quickly captured 40% of the United States hard cider market, rising to 50% by 2014.<sup>8</sup> More importantly, powered by its parent, Boston Beer, the marketing of the brand put hard cider on the map. By 2015, the cider market had grown almost tenfold to \$436 million.<sup>9</sup>

Importantly, due to the success of Angry Orchard, the market was dominated by sweet tasting hard ciders selling for a relatively low price and using high fructose corn syrup as the base. Having tasted these ciders Colin was convinced he could make a better product with a dryer, more authentic taste similar to ciders sold in Europe, which used 100% apple juice as their base. These new ciders would use a resource right in Schilling's backyard, the apple orchards of Washington, which produce approximately 69% of all apples grown in the U.S.<sup>10</sup> At the time there were few cideries in the northwest and none of these were producing at scale.<sup>11</sup> The local apple supply had advantages beyond taste. By having the raw materials close to where they would create the cider they reduced shipping distance, shipping costs, production time, and their carbon footprint.

The final proposed point of differentiation during the early years was the Schilling name. In 1881, Colin's great, great grandfather, August, founded A. Schilling & Company in San

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<sup>4</sup> <https://greatforest.com/sustainability101/the-glass-recycling-problem/>

<sup>5</sup> Interview with Colin Schilling

<sup>6</sup> "[Boston Beer's Angry Orchard Cider Launches Nationally In April](#)". *Beer Street Journal*. January 16, 2012.

<sup>7</sup> Interview with Colin Schilling

<sup>8</sup> Crouch, Andy (January 5, 2015). "Wasted: How the Craft-Beer Movement Abandoned Jim Koch". Boston.

<sup>9</sup> <https://www.grandviewresearch.com/industry-analysis/cider-market>

<sup>10</sup> [https://www.nass.usda.gov/Statistics\\_by\\_State/Idaho/Publications/Crops\\_Press\\_Releases/2020/FR08\\_1.pdf](https://www.nass.usda.gov/Statistics_by_State/Idaho/Publications/Crops_Press_Releases/2020/FR08_1.pdf)

<sup>11</sup> Interview with Colin Schilling

Francisco, which was a successful spice company. The company was bought in 1947 by McCormick but the brand lived on as McCormick/Schilling until the 1990's.<sup>12</sup>

### Executing on the vision: Producing Craft Hard Cider on a Large Scale

Having been immersed in the entrepreneurship track at Atkinson, Colin and Mark were guided by the concept of **affordable loss**. That is, they were determined to leverage the resources they had on hand and were very careful when making investments. Affordable loss restricts resources early in a new venture, but provides financial flexibility to invest incrementally as you grow. Colin and Mark were keenly aware of their limited resources.

For instance, they leased an initial physical plant of 1,200 square feet which proved to be woefully inadequate to launch the brand, but allowed them to begin production. By April of 2013 when they launched their first products in Seattle and Portland, they had added two warehouses increasing storage capacity by another 6,000 square feet, and by the end of 2014 they moved into a bigger facility consisting of nearly 30,000 sq. feet.

To further embrace the affordable loss ethos, they relied on Mark, who, in addition to being in charge of the company's finances as CFO, turned out to be a born engineer. He used these dual roles to minimize the outlays of capital and maximize the efficiency of the production processes.<sup>13</sup> From a financial and environmental sustainability perspective this meant that instead of buying expensive new equipment Mark scavenged used equipment and repurposed materials and tools originally designed for other uses. In the process, they outfitted their original 1,200 square foot production facility for only \$30,000. Using traditional methods this would have cost over \$200,000.<sup>14</sup> For example:

- Schilling did all the wiring, plumbing and concrete work in house and where possible embraced the reuse aspect of sustainability. For instance, much of the piping they used was second hand.
- Plastic wine storage tanks are 1/10<sup>th</sup> of the cost of stainless tanks but are not temperature controlled, which is necessary to create and maintain shelf stable hard cider. So Schilling installed custom-made stainless-steel glycol coils to create climate controlled plastic storage tanks.
- Schilling built platforms out of wood instead of concrete, since wood is less expensive, more reusable, and produces less CO<sub>2</sub> than concrete.

### Partnering for Production

Perhaps one of the more powerful lessons Schilling learned early on was to develop a set of partnerships that helped them enhance their existing assets without incurring large, fixed costs. Many entrepreneurs call this the **crazy quilt** principle. These partnerships not only provide

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<sup>12</sup> [https://en.wikipedia.org/wiki/A.\\_Schilling\\_%26\\_Company](https://en.wikipedia.org/wiki/A._Schilling_%26_Company)

<sup>13</sup> Interview with Mark Kornei

<sup>14</sup> Interview with Mark Kornei

resources and know how, but also can influence a small firm to innovate in ways that they may not have imagined.

Aluminum can production is a volume business with large barriers to entry, and there are two large companies dominating aluminum can production in the United States: Ball and Crown. Schilling was fortunate that both Ball and Crown had production facilities close to Seattle, which limited both financial and environmental transportation costs. It also reduced the time associated with moving cans to Schilling's production facility.

Moreover, at the time Crown was motivated to work with the emerging craft beverage business in the Northwest. Crown recognized that most of the craft producers were (and still are) small, and so meeting the normal minimums for preprinted cans was infeasible. Crown reduced their minimums for printed cans to eight pallets and offered the additional service of warehousing cans for smaller companies. This was important for Schilling when they were starting out, as it allowed them to use cans for some of their products even though the volumes they were producing were relatively small relative to other Crown customers. This, in turn, created the opportunity to use cans for a handful of year round SKUs.

Another major partner was Sam Courtney at VN Graphics which is also located in the Seattle area. This is the company that Schilling uses to design create the metal plates used to print graphics on the cans. Printing on aluminum cans is much more complex than printing on paper. To print on rounded aluminum requires multiple digital files and many time-consuming interactions between the producer of the product, the graphics company creating the files, and the aluminum can producer. The VN Graphics process for managing these interactions is described in Exhibit 3.

Colin and Mark were actually introduced to Sam by another early partner who was a mobile canner. Having VN Graphics in proximity helped deepen the relationship between Schilling and VN as Sam served as a source of knowledge to help Colin and Mark deepen their understanding of the canning process and the beverage businesses in general. Utilizing these partners resulted in a streamlined supply chain and production line for Schilling (see Exhibit 4), enabling them to get a new product idea ready for sale in less than 4 months.

### Marketing and Distribution

Schilling had two major challenges in stimulating demand for their product. They had to create awareness that the brand existed and that a product packaged in cans was not only a legitimate craft cider, but a superior one. Their initial marketing message was "just try the liquid." Thus, they focused on getting reputable bars and restaurants to have tasting events where Schilling Cider would be provided in kegs for customers of the local establishments. They also participated in tasting events sponsored by the Northwest Cider Association (NWCA). This helped create awareness for the new brand without gaining high levels of shelf space in retail stores. However, the link to the message that Schilling makes quality cider in cans was tenuous as much of the tasting was done by the glass from taps in the restaurants.

One of the more challenging tasks was finding the appropriate distribution partners to get into retail outlets. Schilling knew that, as an untested unknown brand of cider they needed to find distributors with the right relationships who could help to get their product on the shelves of retailers, as well as bars and restaurants in the Northwest. They leveraged their contacts to some degree but had their hands full getting production off the ground. Thus, as is typical in the alcoholic beverage business, they had to rely on distribution partners. They went through a number of “false starts” before they found partners that completely satisfied their needs in Washington and Oregon.

They started with a small wine distributor in OR which lasted only a few months because they weren't providing the level of service required to truly get the brand on store shelves. In Washington they used a slightly larger distributor based in Seattle who provided great service but weren't capable of providing the growth opportunities in Washington beyond the Seattle area. They then tried accessing the region through a network of mid sized distributors. This increased their geographic reach but was a challenge logistically as the network operated in a fragmented way. Thus, instead of being able to work through a central decision maker they ultimately ended up communicating and negotiating with each distributor individually. This required adding staff to manage the different relationships.

### Pricing and Packaging

At the time of introduction there were two types of cider being produced. Major brands such as Angry Orchard were retailing 6 packs of bottles similar to beer bottles at \$7.99. Boutique small cideries were instead packaging and selling their ciders like wine, utilizing 750 ml bottles retailing for \$15-\$30 a bottle. Schilling tried a number of packaging and pricing combinations designed to price their cider somewhere between these two price points.

When they started out they primarily sold in 12 oz 4 packs for a retail price of \$7.99. While this was higher per container than Angry Orchard, they believed the price connoted the superior quality of their product while keeping the pack under \$10 to conform to consumer perceptions of a “reasonable price.” This was not a normal pack size and required them to use a different packaging medium which resulted in damage during shipping. This issue became more serious when they tried to combine different pack sizes on the same pallet. In addition, the 4 pack was not well received by retailers as it was inconsistent with other packaging on the shelf. They then moved into 6 pack cans retailing at 11.99 using the same packaging method but damage in transit and retailer acceptance continued to be an issue.

Thus, they tried 6 pack hi-cone ring carriers used by some in the beverage industry to ship products in aluminum cans (see Exhibit 5). This reduced much of the damage due to shipping and were well received by retailers. However, the packaging was inconsistent with their focus on sustainability. A traditional six-pack ring made from plastic can take as many 450 years to completely decompose. In addition, plastic rings that end up in the water or on beaches can cruelly trap animals, choking the necks of birds and turtles, or it can be mistaken for food (which animals can't digest).<sup>15</sup> Thus, this packaging was falling out of favor.

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<sup>15</sup> <https://www.thekitchn.com/biodegradable-six-pack-rings-saltwater-brewery-22932460>

Finally they decided on packaging in 6 pack paperboard boxes. Not only were these boxes more secure and recyclable than the plastic tops, they also gave the opportunity to act as a mini-billboard to promote the Schilling brand (see Exhibit 6a). This ultimately proved to be the most sustainable and stable way to package their 6 pack offerings.

Schilling also experimented with short “seasonal” flavors. For these they used bottles (see Exhibit 6b). This was primarily due to logistical reasons. As noted above, the process of creating and producing cans for a particular flavor is lengthy (10-16 weeks). Moving from flavor to packaged products in bottles is much shorter (2-3 weeks). Thus, for short run, low volume seasonal products it made more sense to package in bottles.

2015-2017

During this period Schilling figured out how to go from being an organization focused on growth to an organization focused on profitable growth. There were three keys to this transition. The first key was understanding the sales dynamics of the three-tier system of alcohol distribution set up in the United States after the repeal of Prohibition.<sup>16</sup> This system is structured such that alcohol importers and producers (like Schilling) sell their product to wholesale distributors, who sell products to smaller retailers, who sell to consumers.

Because of their desire to levy and collect taxes on alcohol, many states created legal regimes that prohibited ownership across the three tiers (production, distribution and retail) either entirely or partly. States were left to regulate themselves by the 21<sup>st</sup> Amendment, and so alcohol laws and the nature of the distribution system can vary significantly from state to state. In order to operate profitably within this system Schilling needed to identify and creating strong relationships with distributors in each region in which they operated. They had achieved this in Oregon and Washington, however by now their ambitions had expanded well beyond the Northwest.

Schilling first tried to hire staff with extensive expertise in alcohol sales management. They made a hire, funded a staff, and tasked the new group with opening distribution to as many new states as possible. By June of 2016 Schilling had expanded from selling in just Oregon and Washington to selling in 15 states. Unfortunately, the old-school approach towards relationship building and high personnel costs meant that the growth in salaries more than offset the increased sales, and the resulting losses threatened to bankrupt the company.

In June of 2016 Colin knew that he had to turn things around. He briefly took over the sales and marketing function, stopped focusing on many of the states where the previous sales manager had opened up distribution, and refocused on their home markets. Colin also instituted a new approach in the states outside the Northwest, where he focused on creating value laden relationships with key distributors. Soon after taking on this role, Colin began looking for someone internal who could execute this new approach. In September January of 2016 he tapped Eric Phillips, who had demonstrated his ability to grow sales profitably in Texas, to become the

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<sup>16</sup> Mayfield, Kendra, Web Wine Sales Still Bottled Up, Wired, 31 March 2004.

regional sales manager for Oregon, Washington and Alaska. After proving himself in Schilling's biggest markets, in January 2017, Eric became the new Chief Sales Officer for Schilling.

The second key to becoming profitable was understanding how hyper growth intersected with the highly capital-intensive manufacturing business of producing hard cider at scale. During this hypergrowth phase Schilling had to learn how to keep a consistent affordable flow of inputs to support the growth sales.

The third key for moving towards profitability was a shift to a more focused branding message. In the entrepreneurial period from 2012-2014 their messaging wasn't always consistent. At various times it emphasized the taste of their product, the sustainability of their packaging, the use of local resources, or the tradition associated with the Schilling brand. During the 2015-2017 period they began to focus internally on the notion that Schilling Cider was "dangerously drinkable". To the customer the message of dangerously drinkable was that Schilling delivered full flavored, bold, innovative cider. That Schilling is pushing the envelope on what cider can be. In the process they refined their idea of their target customer. They were making affordable products for the adventurous cider drinker. Someone who appreciates a full bodied cider and is willing to try new ideas. This new focus was communicated in a number of ways.

First, and perhaps most importantly, Schilling was constantly creating new flavors of cider. They started out in 2014 with three flavors the Original Dry Hopped, the Oak Aged and Ginger. Two of these, Oak Aged and Ginger were new to the American Cider drinking public. While they always supported their initial, popular flavors, they would experiment throughout the year, supported by the low minimums allowed by Crown. While most of these flavors would either be discontinued or would become seasonal favorites, every once in a while, Schilling would land on a big hit and introduce a new cider flavor that would expand the notion of cider for the industry. For instance, in 2014 they introduced grapefruit cider which has now become a staple of cider drinkers. In 2015 they introduced Pineapple Passionfruit which also expanded the cider category. These introductions helped to cement their reputation as an innovator with their customers and conditioned them think of Schilling when they were looking for something new to try.

Schilling's packaging evolved to fit with their emerging image. Packaging used in the early years (see Exhibit 6a), is more traditional. It features the Schilling name prominently and links to a northwestern icon—a lumberjack. This packaging maintains a traditional northwest feel and connotes a more classic taste. Compare this with packaging from after 2015. Exhibit 11a still maintains the prominence of the Schilling name but is considerably more playful. This whimsical element starts to become a staple in the Schilling branding. In Exhibit 11b we see the introduction of the grapefruit cider and a move away from tradition with the use of bright colors and non-traditional cartoon figures. The reference to the northwest is nowhere to be found, and the focus on adventure over tradition is obvious. Indeed, later packaging of this flavor would need to remind consumers that the product was made in the Pacific Northwest. This transition continues to evolve with the variety pack shown in Exhibit 11c. Cartoon figures and bright colors become associated with Schilling indicating obliquely that the Schilling brand is for those who are outgoing, adventurous, and looking to try something new. It is no longer just "classic" hard cider. It is considerably more innovative and whimsical.



The overall branding message is captured in Exhibit 12 which provides an excerpt from a press packet released in 2017. While the message continues to link to the Schilling tradition it articulates that Schilling cider is innovative, daring, and bold.

It is important to note that during this period Schilling continues to believe in cans and is focused on keeping their processes as sustainable as possible. Indeed by 2018, the cider industry in the Northwest is taking note, and begins moving to cans aggressively. In Oregon and Washington cans are 40% of all cider sold by volume in 2018, twice the national average. Linking cans to sustainability is also explicitly captured in the Schilling press packet. However, it is not yet actively articulated to the customer through the packaging. Thus, the sustainability of cans as a differentiation point from a consumer perspective is quite limited.

Due to the combination of the adjustments made in this period, by the end of 2017 Schilling was in a stable financial position and ready to initiate its next growth initiative—a state of the art canning facility.

### 2018-2021: Becoming the Canning King

Up to now Schilling had been using a copacker introduced to them by Crown to can their cider. They brought a tanker of cider to the copacker who took the cider put it in cans, seamed an end on it, pasteurized it, and returned the canned cider back to a Schilling warehouse until it was shipped out to the distributor. This allowed them to eliminate the mobile canner and reduce their canning costs by about 60%.<sup>17</sup> This partnership turned out to be a pivotal moment as it gave Mark access to seeing how a canning production line ran in mass production. The engineering side of Mark's mind started seeing inefficiencies in their lines, which, in turn, got him thinking about whether they could do this better in house. In essence, he started asking the question, what would our operations look like if we did all of the canning and packaging of cans for shipment to distributors ourselves and when could we afford to make that investment?

At the end of 2017 Mark created a sensitivity analysis to assess the feasibility of doing just that. It included their current production costs, projected production costs the cost of borrowing the money to build out the line and the breakeven and payback period at various levels of production. After consultation with the other managing partners which now included Ian Townson and Eric Phillips they decided to move forward with the project. This was a pivotal decision for supporting Schilling's growth and sustainability ethic.

In building out the production line they were determined to not only make it financially viable but in doing so, specifically pay attention to how to make it the most environmentally sustainable canning facility in the country. With this in mind Mark set out to become “the expert” on canning facilities. The large beverage producing companies (e.g., Coke, Pepsi, Budweiser, Coors) actually take steps to shield their canning operations from their major competitors. Because Schilling was still small and not seen as a major competitor they were able to gain access to a wide variety of canning/packaging facilities. Mark spent months touring facilities to

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<sup>17</sup> Interview with Mark Kornei

pick up tips on equipment, vendors, and layouts of systems at these facilities. He talked to vendors and attended trade shows to identify innovations in equipment.

He came to understand that for Schilling it made sense to bring the following processes in house:

- Primary prepackaging (getting the cans ready to be filled)
- Filling and Processing (filling and capping the cans and pasteurization)
- Secondary Packaging (putting cans in the appropriate cardboard container by SKU)
- End of Line (palletizing, storing and loading onto trucks for shipments to distributors)

An important factor in integrating these processes was the size of Schilling at the time, as no beverage producer of their size had developed a canning line incorporating all of these elements. The vendors for the equipment needed to support the development of the line were used to much bigger players. In addition, Mark had developed some ideas about how all of these processes worked together that were different from typical canning facilities. As such, while some of the equipment Schilling purchased was “off the shelf” much of it had to be customized for the footprint they were trying to fit it into and the processes that they were integrating.

This along with other elements helped Schilling to coordinate and integrate processes in a way that simultaneously reduced costs and their environmental footprint. Specifically the plant:

1. Reduced the amount of miles liquids and filled cans travelled and the weight carried when those miles were traveled. This simultaneously reduced shipping costs and their environmental footprint.
2. Create higher efficiency in material consumption, yield, and labor. Once again, simultaneously reducing costs, but also reducing waste and energy usage.
3. Integrated the automation of those processes to eliminate repetitive jobs better performed by machines, thereby freeing up employees to do more meaningful and complex tasks.

This last practice not only made jobs at Schilling more interesting, but also provided avenues for employees to suggest ways to further increase the efficiency and effectiveness of the canning operation. Thus, social sustainability began to become a more important part of their overall sustainability ethic.

In short, choosing and customizing the equipment with a focus on making jobs more appealing Schilling incorporated the human element of sustainability. A guiding principle of the building of the line was that they wanted the line to be a tool for helping to shape the culture of the company. The efficiency of the line allows Schilling to be able to promise that, unlike many large canning facilities, they will not run night shifts. The line is also built to allow people to be as effective (not just efficient) as they could be. Effectiveness in the Schilling culture is defined as utilizing their own skills to the highest level possible and be rewarded for it. So all the mundane tasks were automated into the line. The diagnostic tasks were incorporated in the line in ways where the equipment amplified the ability of the employee to utilize their skills.

For instance:

- Instead of needing employees to be handling dunnage materials for empty cans, the depalletizer automatically sorts out substandard cans into individual bins for recycling.
- Instead of a quality assurance (QA) person pulling cans every 20-30 minutes and testing, they have constant inline measurement of a variety of factors.
- Where possible, systems are put in place to allow people to move materials more easily and due to the speed of the line, the time at the equipment is shorter.

As a result, Schilling is able to attract talented employees and has a 90+ percent retention rate. This is extraordinarily high for a manufacturing business.

In addition to the original guiding principles of building a financially viable and environmentally sustainable line it was also important to account for projected growth of Schilling. Thus, when they built out the line, instead of building it for current sales they built in significant excess capacity for the foreseeable future.

These factors all came together to give Schilling an operational excellence competitive advantage relative to their hard cider competitors. By the end of 2019 the new canning line was up and running. The line is extremely efficient and creates volume ready for shipment in a day that most of their competitors make available in a week.

More than that, they know as much or more about the process of canning and packaging beverages as the major canners which have been honing their processes for decades. They understand from both a cost and environmental sustainability standpoint the leverage points for each of the subprocesses above, and they understand how that leverage translates when you integrate the processes. Their expertise translates to such a degree that they now copack for other producers who want to can their own beverages. Finally, the line also helps them recruit and retain talent.

In short, by 2021 Schilling was now able to leverage their financial stability, more focused distribution and brand position and strategic operational advantage of the in house canning capability to mitigate the looming threat to can recyclability posed by the change in policy initiated by Ball.

Actions Schilling Could Take:

While you should certainly be creative in your recommendations, here are several actions Schilling might take:

- 1) Participate in developing a technology to digitally print economically, and reliably on aluminum cans in short runs, eliminating the need for shrink sleeving.

The current printing process at high-speed can manufactures generates per can costs of approximately 10 cents. For those who can meet the minimums required by Ball and Crown this process will still be the preferred option, and will result in efficient recycling. It is only the smaller production runs of large producers, and the smaller producers, who will turn elsewhere. The environmental harm of Shrink sleeving is salient to Schilling, as shrink

sleeved cans greatly complicate the recycling process. But if they want to get others to move away from the process, they will also have to make a strong economic case.

Shrink sleeving can be done reliably for about 24 cents per can. Thus, the digital technology will need to get close to that price and demonstrate reliable printing. However, current estimates of the cost of state-of-the-art digital printing on aluminum cans is approximately 35-40 cents a can. These costs are driven by the fact that the digital printing process is a slow process, maxing out at a rate near 200 cans a minute. Big manufacturers create aluminum cans at a rate of about 2000 cans per minute.<sup>18</sup> Thus, machine utilization and overhead per can is increased almost tenfold for digital printing. In addition, current digital printing technologies are inferior in terms of quality because the printing on the cans is inconsistent.<sup>19</sup>

Nevertheless, there may be an opportunity in digital printing focused on smaller beverage producers. Digital printing is common on most other materials, and it should be possible to refine this approach for aluminum cans. Schilling could leverage its innovation and sustainability culture, Mark's innate engineering skills, their understanding of the canning process, and its relationship with VN Graphics to move digital printing on cans down the learning curve and create a co-packing line for smaller players to use.

This would, of course, require a significant capital investment in a technology still early in its lifecycle, and it would also represent a deviation from Schilling's core competency, which is making great cider. A change of policy by Ball or Crown towards once again accepting smaller orders would also be impossible to rule out. Thus, Schilling would be taking a significant risk. On the other hand, if successful, it would burnish their sustainability credentials, reinforce their reputation for supporting small cider manufacturers, and represent a significant source of additional revenue and profit.

- 2) Push on the big can manufacturers to either eliminate the option of shrink sleeving or work with them to move digital printing down the learning curve to make it more affordable for smaller producers.

Currently aluminum can manufacturers are in a boom period. They are operating at full capacity and still can't meet all of the demand for their product. This is reflected in the stock price for both Ball and Crown (see exhibit 12a and 12b). Thus, they currently have little incentive to change their business model. It is likely that the current capacity constraints are a major motivation for the change in policy pushing small beverage producers towards shrink sleeving.

However, increased capacity is on the way. Ball, Crown, and foreign competitors (such as Ardagh) all have plans or have broken ground on new U.S. production plants (see exhibit 12c). Thus, capacity constraints are likely to abate over the next few years. Moreover, aluminum can manufacturers are feeling the same pressures as other industries to create and communicate more sustainable models of production. While they are pushing smaller

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<sup>18</sup> Interviews with Colin Schilling and Mark Kornei

<sup>19</sup> Interview at VN Graphics

producers toward shrink sleeving, both Crown and Ball are also touting how cans are more sustainable than other containers. They claim they are both also actively looking for ways to improve their production and distribution processes to make them even more environmentally friendly.<sup>20</sup>

Schilling could take this opportunity to lobby the can manufacturers to reverse their stance, stop selling blank cans to subcontractors who shrink sleeve, and also reinstate the lower minimums once capacity constraints abate. This option would require much less investment, but Schilling has little leverage to actually shape the decision making process of the can manufacturers. In addition, because small cider producers rely on shrink sleeving, any effort to eliminate that option could be seen as an attempt to put small craft cider producers out of business. This would be a blow to the Schilling brand which, up to now has been seen as an advocate for the broader craft cider business in general.

Alternatively, an active partnership with one of the can manufacturers to create a separate division for short run digital printing would be an interesting hybrid of these first two options. It would move digital printing down the learning curve, and because they'd be working with a highly capitalized partner their investment risk would be lower. On the other hand, since Schilling would be at a power disadvantage they would also be less likely to reap the financial and brand benefits should the venture prove successful. It also is not clear what benefit Schilling could provide to the can manufacturers through such a partnership.

### 3) Lobby regulators to put limits on the use of shrink sleeving.

Schilling has been successful, in conjunction with Northwest Cider Association (NWCA), in changing regulations to help the growth of the hard cider business in the Northwest. They worked to legalize growlers of cider in Washington, and eliminated an 8 cent per gallon assessment that was paid to a wine marketing association. They also had experience lobbying on their own for additional flexibility in alcohol production plants in Washington. As such they have strong relationships with several Oregon and Washington legislators. They could possibly use these relationships to legislatively limit the use of shrink wrapping. Even a very small change, like a prohibition on claiming that shrink wrapped cans were recyclable, could be effective, since those cans would then not have a redemption value. Taking this route would once again open themselves up to claims that they were trying to disadvantage the smaller cider producers. It would also be very challenging to scale this solution beyond the pacific northwest, since Schilling does not have many legislative contacts outside of Oregon and Washington.

### 4) Educate the Public about the disadvantages of shrink wrapping for recycling.

The general public does not have a good understanding of how shrink sleeving limits recyclability. For instance, most assume that plastic water and soda bottles are recyclable,

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<sup>20</sup> <https://www.ball.com/sustainability/goals>. <https://www.crowncork.com/news/press-room/crown-highlights-completion-2020-sustainability-goals-and-sets-strategy-next-decade>

since they are redeemable at most recycling centers. In fact, many of these are shrink sleeved, and unless the shrink sleeves are removed the plastic is not recyclable.<sup>21</sup> The problem is even less apparent on aluminum cans because, to the untrained eye there is very little visual difference between printed and shrink sleeved cans.

This course of action would again open them to the claim they are picking on the small craft producers, given how commonly the shrink sleeving process is used by smaller manufacturers. Because Schilling would bear little cost from eliminating shrink sleeving, if their message is not artfully and substantively supported their claim of sustainability could backfire and they could be branded as greenwashers.

If they go this route, they would likely want to make the campaign part of a larger branding effort promoting the sustainability of their brand. They have a legitimate claim to moving the craft cider industry in the Northwest towards more sustainable packaging through the adoption of cans. However, since they didn't make that claim as a significant part of their early branding efforts, it will now be more difficult to differentiate based on that claim. They would likely have to pioneer a number of other initiatives and communicate these consistently before the public starts to appreciate their commitment to sustainability. If successful however, this could provide Schilling another point of differentiation as "the sustainable craft cider."

5) Do nothing.

Schilling could of course ignore the change in policy by Ball. The Cider market is continuing to grow (see Exhibit 13), and Schilling is in a strong position to take market share based on the changes they have made over the last three years. However, Mark, Colin and the rest of the management team need to consider whether doing nothing is appropriate given their sustainability ethic and the culture they have fostered in the company.

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<sup>21</sup> <https://derksenco.com/blog/shrink-sleeve-label-recyclability-and-environmental-impact>

## Exhibit 1 Ball Corporation Announcement

Demand for sustainable aluminum beverage packaging continues to grow at an accelerated pace. Ball is making investments to bring additional capacity online, and in the meantime we remain in a tightly constrained supply environment for the foreseeable future. This environment is making it difficult for us to deliver the quality customer experience our customers expect from Ball, and we are making some adjustments to how we do business to remedy that.

To more effectively serve our non-contracted customer base, effective January 1, 2022, where supply is available, we will require a minimum order of five truckloads per SKU for printed cans, and we will no longer be able to warehouse inventory on behalf of our customers. Ball will continue to hold inventory for cans purchased in 2021, however cans shipped in 2022 will be charged at 2022 prices.

To support our non-contract customers with quantities less than five truckloads or who require warehousing, we have engaged four established distributors who understand our business and the high level of customer service that our customers expect. These distributors will be able to continue to deliver the flexibility and more personalized service that our customers are used to from Ball, such as:

- Less than minimum orders and truck volumes
- Easier forms of payment (i.e., credit cards and credit terms)
- Off-site warehousing
- Shorter lead times
- Shrink sleeves and adhesive labeling
- Consultation on co-packing and contract manufacturing

Enclosed with this email is more information about our distributors. Your Ball representative will be following up with you directly to discuss this service in more detail. We are happy to make any introductions and will work with all of our non-contract customers who plan to move to a distributor to ensure a smooth transition.

As always, we truly value your business and remain committed to working hard to deliver the high quality metal beverage packaging and service you expect from our team.

Exhibit 2 Angry Orchard Packaging





Exhibit 3 The Can Printing Process



Concept

The first stage of the can printing process is conceptualization and design, which starts when a producer, such as Schilling, sends VN Graphics a proposed design in a digital file. VN Graphics considers whether that design can be effectively printed on a can, and will often make suggestions for changes to the design of the graphics in the digital file in order to improve the quality of the graphic on the can.

## Design

There are only 6 colors that can be used to create a design on a can, and color mixing is challenging. So instead of having a very wide pallet of colors available to print with, as you would on paper, the color pallet for aluminum cans is much more limited. Thus, VN Graphics works with Schilling to come up with a design that is a compromise between what they envision and what can effectively be printed on cans at scale. The amount of time this takes varies but can often be several weeks.

## Pre-Press, Colors, and Proofing

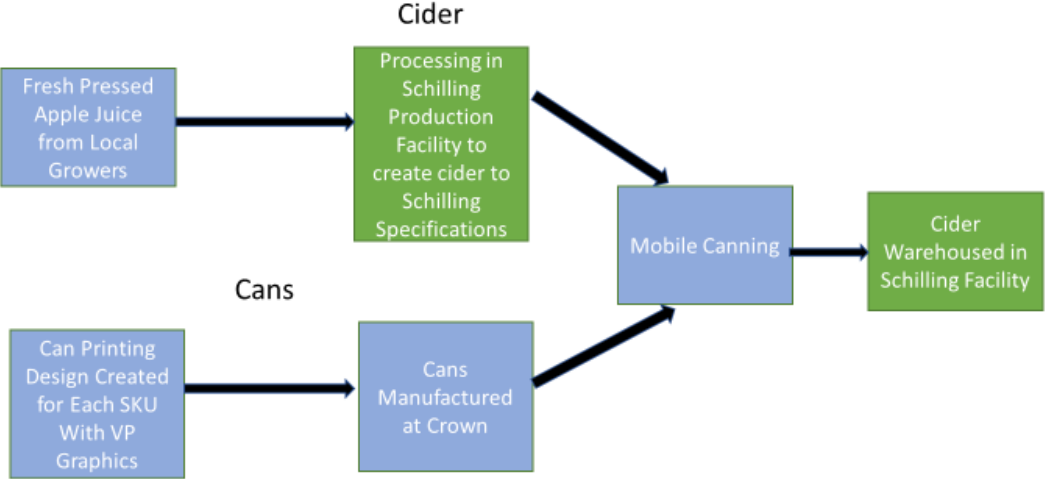
The next stage of the can printing process is prepress and proofing. In this stage the colors chosen for the individual elements of the design are put together on the plate that will be used for mass production. Care is taken to ensure that the elements do not overlap, because that will cause excessive bleeding and fading in the final product. Often this requires changes to the design to introduce barriers which ensure there is not overlap. At VN they have the capacity to print a limited run of cans using the proposed can design, which lets them proof the cans to ensure a high-quality image as the pressures of mass production may cause the colors to show up differently during a high speed run. If the original design does not look good, then modifications can be made in real time before the design goes to mass production.

Typically, the time from the original design being submitted to VN Graphics through proofing is about 5-6 weeks. Because can production is constrained Schilling will try to preschedule production with their can producer based on this schedule.

## Production and Review

The final stage in the can printing process is production and review. After the proofs are approved by Schilling, the files are digitally transmitted to the can manufacturer (Ball or Crown) and a mass production run is generated based on those files. Then the cans are sent to Schilling to be filled and sealed.

Exhibit 4 Schilling Supply Chain and Production Line for Initial Launch (April 2013)



Green boxes are Schilling owned in April 2013. All other parts of production are outsourced.

Exhibit 5: Hi Cone Ring Carriers

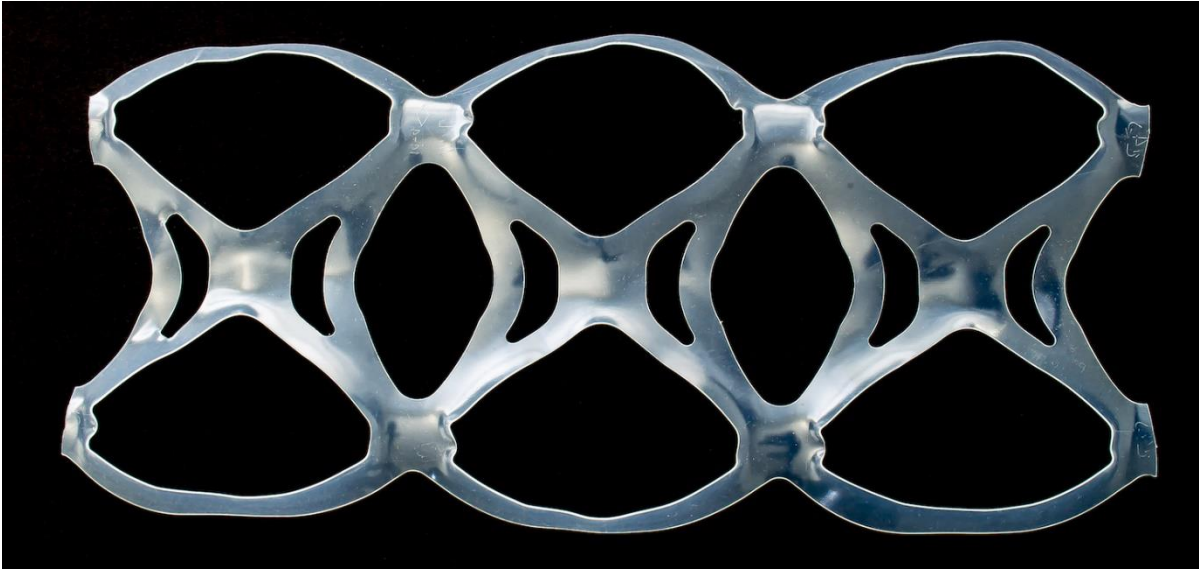


Exhibit 6a Schilling 6 Packs



Exhibit 6b Seasonal Flavors in Bottles



Exhibit 7 Gallons of Schilling Cider Sold

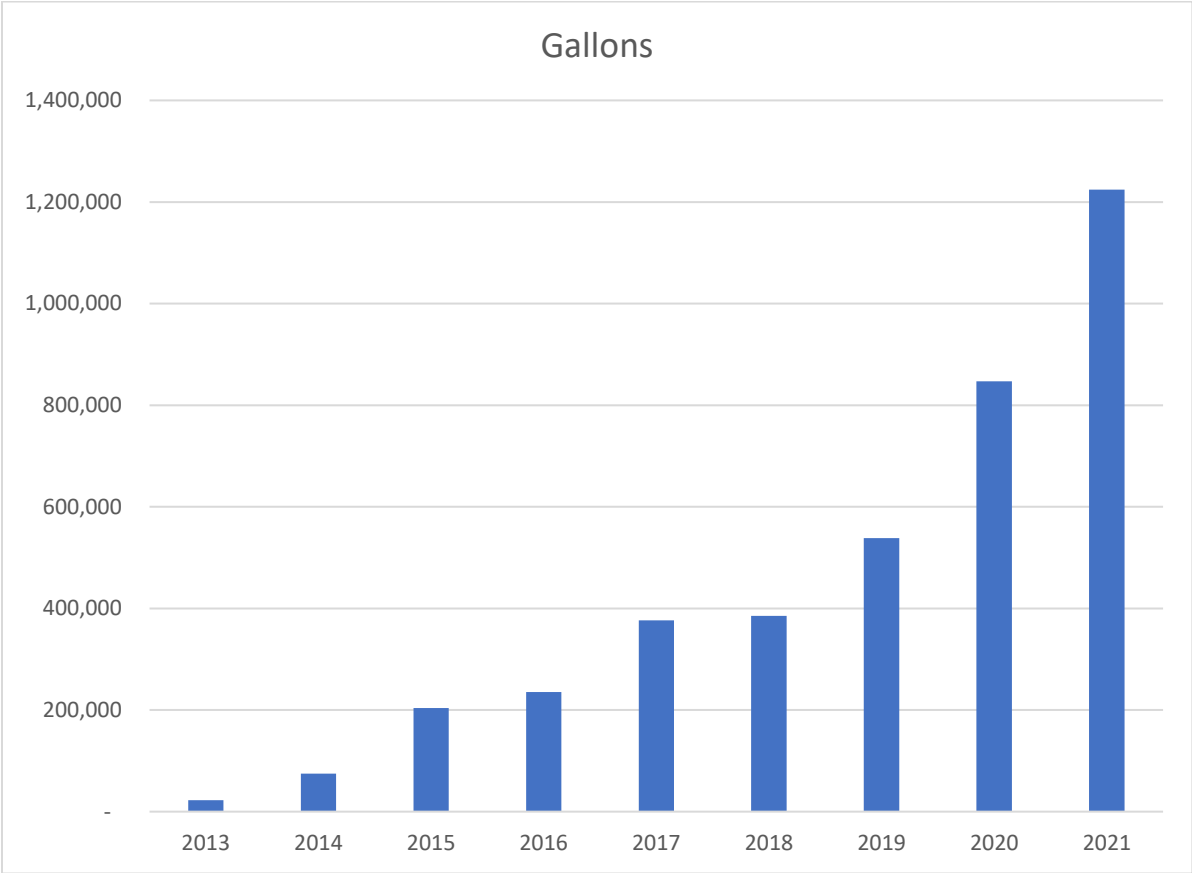
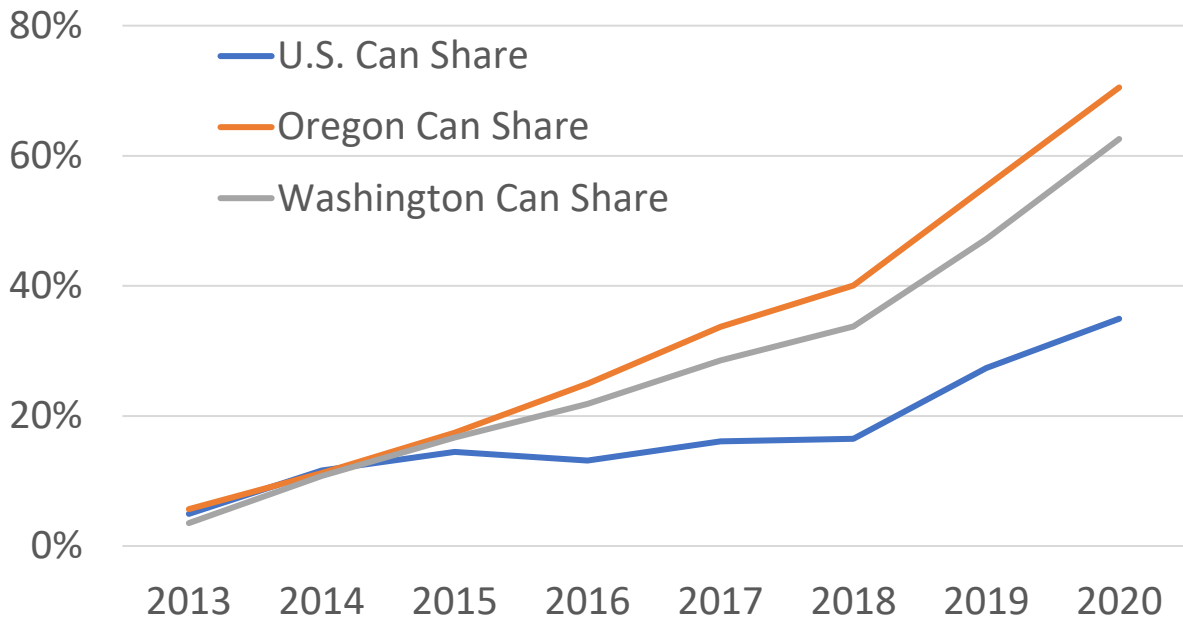


Exhibit 9 Can Sales as a percent of Gallons of Cider Sold (Case Equivalent Volume)



## Exhibit 10 Examples of Press Releases

### Prelaunch

Press Releases appeared to begin around March 19 continuing through April 8 for Launch April 18 in Portland and April 25 in Seattle

Collin: Schilling Cider, a new craft cider company, will be launching its cider next week on draft and in aluminum cans in Oregon and Washington. Schilling Cider was founded by a Colin Schilling, the great great grandson of the founder of Schilling Spice Company, now McCormick. The company will be packaging exclusively in cans to provide a better protected product and a lower impact on the environment. The company will be launching its original cider to be followed by 3 more varieties over the summer.

Mark: Schilling & Co, a new Seattle based cider maker, is launching its craft hard ciders this week in Oregon and Washington, with other states to follow towards the end of 2013. The cider will be available in four-packs of 12-oz cans at retail and on-site locations as well as on draught at select bars. Schilling produces four primary varieties including: Hard Cider (original), a semi-dry crisp cider with a floral and citrus finish; Barrel Conditioned Cider, aged on American oak provides a mellow flavor profile, best served at above 45 degrees; Ginger Cider, fermented with a strong kick of ginger with a sweet finish; Dry Hopped Cider (DHC), for the IPA lovers of the world, this hopped cider uses northwest grown whole leaf hops. All Schilling Cider is made from apples grown in Washington State. For more information about Schilling Cider, visit [www.schillingcider.com](http://www.schillingcider.com)

October 13, 2013

Schilling Cider is a craft cidery that believes in dangerously drinkable ciders that are full of flavor. Schilling Cider, based in Seattle, is committed to sustainability through the use of highly-recyclable materials and local ingredients. Their ciders are distributed in WA, OR, MN, and Northern ID.

Nov 21 2013

In 1881, my great-great-grandfather, August, founded Schilling Spice Company in San Francisco. His goal was to bring pure, natural spices to everyone in the west. One hundred and thirty years later, Schilling Cider carries on this tradition of premium quality. All of our ciders are crafted from 100% premium Washington apples and each is made with a unique strain of yeast to create ciders unlike any other. Additionally, we hand select each ingredient for our ciders to craft the perfect flavor profile. It is our obsession to craft the most complex yet dangerously drinkable cider we can. Just like August Schilling with his spices, I want to bring you the very best.



Exhibit 11a



Exhibit 11b



Exhibit 11c



Exhibit 12a

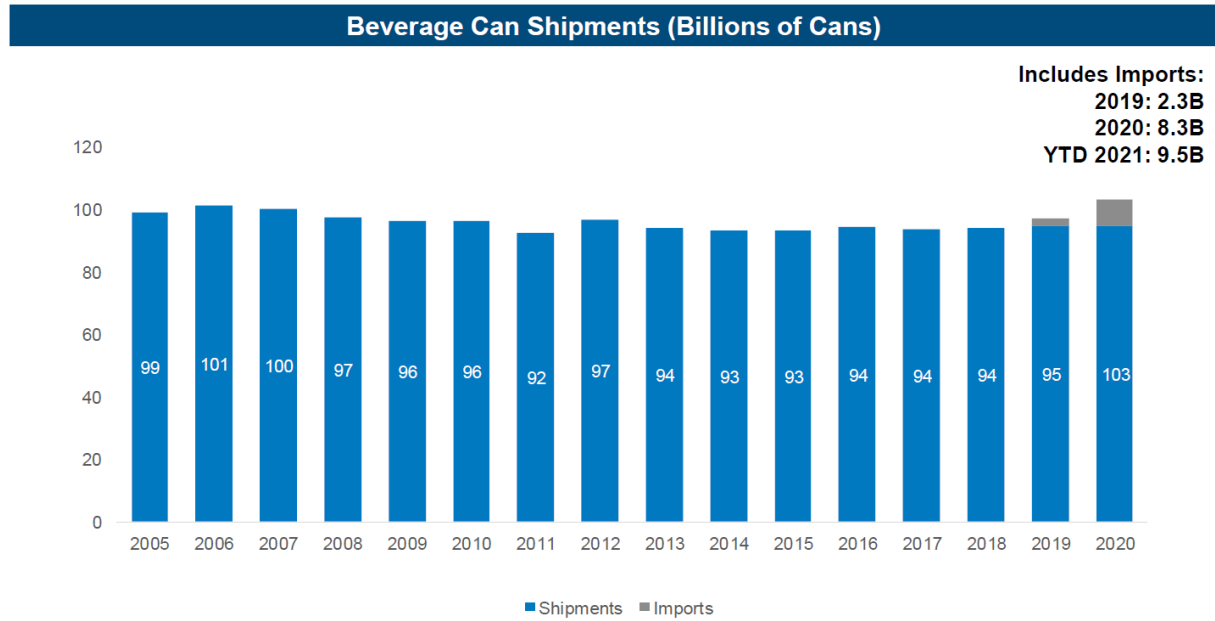
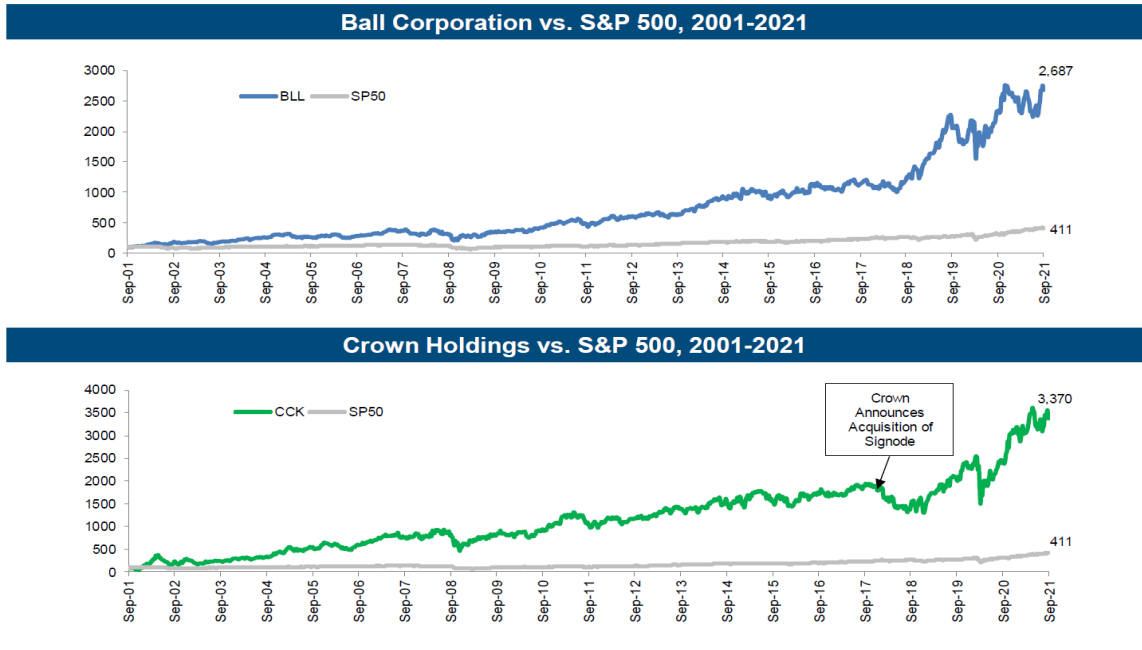


Exhibit 12b



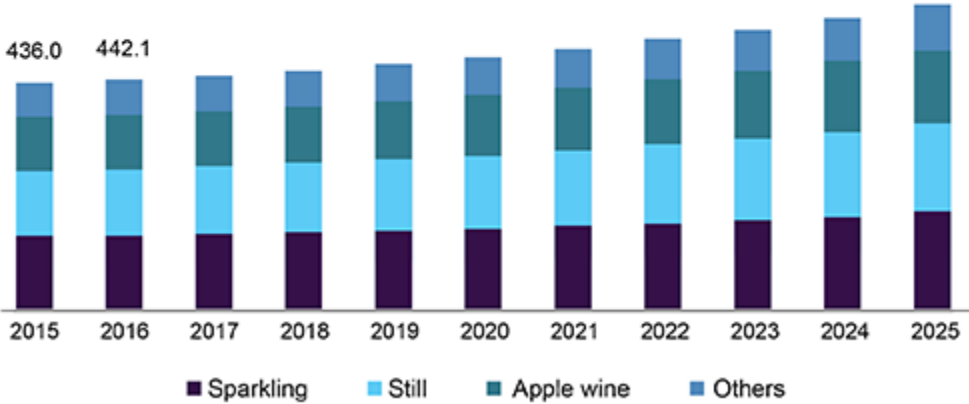
Source: FactSet

Exhibit 12c

Ardagh		Ball		Crown	
	Cans (Bn)		Cans (Bn)		Cans (Bn)
2019	39	2019	101	2019	76
2024	60	2025	146	2025	112
Increase vs. 2019	21	Increase vs. 2019	45	Increase vs. 2019	36
Increase %	54%	Increase %	45%	Increase %	47%

Exhibit 13 Cider Market Evolution projected from 2015-2025

**U.S. cider market size, by product, 2015 - 2025, (USD Million)**



Source: [www.grandviewresearch.com](http://www.grandviewresearch.com)