

# Creating the Market for Organic Wine: Sulfites, Certification, and Green Values

Geoffrey Jones  
Emily Grandjean

Working Paper 18-048



# Creating the Market for Organic Wine: Sulfites, Certification, and Green Values

Geoffrey Jones  
Harvard Business School

Emily Grandjean  
Harvard Business School

**Working Paper 18-048**

Copyright © 2017 by Geoffrey Jones and Emily Grandjean

Working papers are in draft form. This working paper is distributed for purposes of comment and discussion only. It may not be reproduced without permission of the copyright holder. Copies of working papers are available from the author.

## **Creating the Market for Organic Wine: Sulfites, Certification, and Green Values**

**Geoffrey Jones and Emily Grandjean**

### **Abstract**

This working paper examines the history of organic wine which provides a case study of failed category creation. The modern organic wine industry emerged during the 1970s in the United States and western Europe, but it struggled to gain traction compared to other organic food and drink products, including organic tea. Early experiments performed by less-savvy winemakers created a negative reputation for organic wine which proved a challenge to overcome. Early organic winemakers were often derided for their efforts, as conventional winemakers felt threatened by their claims to be more “natural” or healthful than conventional wines. Making matters more difficult, organic winemaking required a sophisticated understanding of complex environmental and chemical processes in the vineyard and winery, and organic wines typically did not command a premium in the marketplace despite their often higher costs of production. The development of organic wine in countries with different winemaking traditions resulted in little common agreement regarding the definition of “organic” wine. After heated debate regarding the use of sulfites, differing organic wine standards emerged. In the United States organic certification schemes excluded the use of sulfites, while in Europe some use was permitted. For winemakers, distributors and retailers, navigating the complex layers of regulations regarding organic wine was enormously time-intensive. Many winemakers chose to forego organic certification so as to avoid the perceived financial and time costs. Organic wine finally attained niche popularity in the 2010s, mainly in northwest Europe and in cosmopolitan global cities elsewhere, as fine-dining restaurants like Noma sought wines with clear *terroir*. Organic wine remained a tiny percentage of the world wine market. There remained huge differences between countries in consumption of organic wine. The market for organic wine was far larger in Sweden, a country with 9 million inhabitants, than in the United States, with 326 million.

# **Creating the Market for Organic Wine: Sulfites, Certification, and Green Values**

**Geoffrey Jones and Emily Grandjean**

## **INTRODUCTION**

This working paper explores why the creation of the market for organic wine proved so challenging and contested. Organic wine producers and retailers found it tough to persuade consumers to buy their wines as the category developed from the 1970s. Conventional wine producers were especially reluctant to switch to organic methods. It proved problematic to develop a common set of standards for organic wine. These issues are long-identified in studies of the development of new industries. Sociologists have shown that the development of common norms, agreed definitions, clear boundaries and cognitive legitimacy are frequently contested processes.<sup>1</sup> In organic wine, they proved especially contested, and hard to resolve.

The wine industry is ancient. Although eastern Europe, the Middle East and Asia have a long tradition of winemaking, by the nineteenth century it was western and southern Europe, and in particular, France, Italy, Spain and Portugal, that had become the recognized prestigious home of the wine industry, called the “Old World.” During the nineteenth century, Europe acquired its modern form of small family vineyards, cooperative wineries and regional appellations.<sup>2</sup> Europe still accounted for 96 percent of the value of global wine exports in the 1980s. From that decade, wine exports from long-established producers outside Europe — particularly the United States, Australia, New Zealand, Chile, Argentina and South Africa— began to build international reputations and gain market share. Wine producers from these countries invested heavily in new technologies and marketing, benefitted from cheaper land and better climates for wine growing, and created much larger companies. A distinction became made within the industry between Old

World wines, which drew on long-established traditions of winemaking in distinctive local soils and climates in Europe, and New World wines, where science and the role of the winemaker were emphasized.<sup>3</sup>

All wines were organic until the nineteenth century, when chemical fertilizers were introduced into agricultural farming techniques.<sup>4</sup> The use of pesticides expanded from the 1940s.<sup>5</sup> Sulfur dioxide, also called “sulfites,” began to be added to wine in the late nineteenth century, following the emergence of the petrochemical industry. Technological advances in chemical delivery systems, such as the sulfur-based Campden tablet, in the early twentieth century also contributed to the growing use of sulfites.<sup>6</sup> Sulfites were used for several purposes throughout the winemaking process; they killed unwanted bacteria, prevented spoilage by bacteria, inhibited the process of oxidation and served as a stabilizer in bottles of wine.<sup>7</sup>

As Section II explains, the search for a way back from using chemicals and additives was belated. It was not until the 1970s that organic wine started to be produced on a significant—albeit tiny— scale in Europe and the United States. However for multiple reasons the organic wine market gained little traction, despite the efforts of both the pioneering winemakers discussed in Section II, as well as the wine retailers discussed in Section III. Adding to the challenges was that wines made using unconventional methods acquired multiple names, including “organic,” “biodynamic” and “natural.”<sup>8</sup>

Multiple certification schemes also developed, as discussed in Section IV. This contributed to a situation where, although it is clear that the organic wine market remained quite small, there has been uncertainty regarding its actual size. The estimates of the size of organic vineyard acreage and the organic wine market shown in Table 1, therefore, should be treated with caution. They are derived from multiple sources, which differ in their methodologies; some sources report certified organic only; biodynamic is sometimes included and sometimes not;

and some numbers may include non-certified organic, including “natural” wine. Insofar as these numbers are reliable, it would appear that organic wine had achieved, after four decades of effort, 5 percent of the global wine market.<sup>9</sup> However there were huge differences between countries. The market for organic wine was far larger in Sweden, a country with 9 million inhabitants, than in the United States, with 326 million. Sweden’s per capita wine consumption was (in 2017) two and a half times greater than that of the United States, yet still the different size of organic wine markets was a striking testament to the uneven spread of organic wine consumption.<sup>10</sup>

**Table 1 Global “Organic Wine” Market, 2003 - 2017**

<b>Country</b>	<b>Area of Organic Vineyards, 2003-04 (Hectares)</b>	<b>Area of Organic Vineyards, 2011-13 (Hectares)</b>	<b>Organic Grape Area as % of Total Grape Area, 2015 (%)</b>	<b>Value of Exports of Organic Wine, 2011-16 (US \$ million)</b>	<b>Organic Wine Market Sales, 2011-17 (US \$ million)</b>
USA	7,875	11,400	2.9	--	200
France	16,400	65,000	9	--	715
Italy	31,170	57,000	11.9	146	73
Spain	14,900	81,000	10.2	--	34
Britain	--	--	17.7	--	130
Denmark	--	--	--	--	13
Germany	2,500	7,000	8.1	--	245
Sweden	--	--	--	--	330
World	88,000	256,000	4.7	--	3,405

*Note:* Data sources come from a single year within the year range included in the column title. Not all vineyards/grapes grown are used for the production of wine.

*Sources:* Beverage Trade Network, “Let’s”; Brandl, “Organic”; Brodt, et al., “Market”; CBI, “CBI Trends”; Duren, “Spain”; Millésime Bio, “Overview”; Millésime Bio, “Press”; Neil Palmer Interview; Pekic, “Italian”; Pink, “The Sustainable”; Systembolaget, “2017 Launch Plan”; Willer and Lernoud, “The world”; Willer and Yussefi, “The world”; Winemonitor, “Press Release”; Woolf, “How big.”

As Section V notes, the slow growth of the organic wine industry as a whole stood in contrast to organic tea which experienced relatively unfettered growth from the 1990s. Section VI shows

that organic wine finally began to get some traction in the new century, but primarily in northwest Europe and in a handful of cosmopolitan global cities.

Throughout the working paper the term “organic” is used broadly to describe wine that is produced largely without the use of synthetic fertilizers or pesticides,<sup>11</sup> although organic certification schemes typically involve many other, more subtle requirements, including restrictions on sulfites.

## **II THE EARLY ORGANIC WINE INDUSTRY**

Though the modern organic wine industry remained small in scale for decades, its geographic spread was impressive even in the 1970s when the industry first achieved significant scale. During that decade pioneers of organic wine emerged around the world, largely united in their effort to keep food products safe from synthetic chemicals and to act as stewards of the environment for future generations. A number of others were motivated by a desire to let nature run its course during the winemaking process, in order to let a wine’s *terroir*— the flavor and aroma associated with the climate and soil conditions in which grapes are grown— express itself more vividly and to create the “purest” wine possible. In pursuit of these goals, winemakers encountered a number of obstacles within their vineyards and wineries, and wine retailers encountered a different set of challenges in the marketplace. These challenges will be the main focus of this section.

In Germany, the production of organic wine started to take root by the early 1950s. Germany had a long history of concern for natural food and healing products evidenced in the natural food stores known as Reform Houses since the 1880s.<sup>12</sup> However, the early organic winemakers were hardly applauded. In the village of Mettenheim in the German state of Rhineland-Palatinate, Otto-Heinrich Sander began implementing organic principles on his



family-owned estate in order to reduce topsoil erosion and avoid monoculture. He was belittled for his efforts.<sup>13</sup> Sander persisted in his approach, and eventually the winery became certified organic, including as biodynamic by Demeter.<sup>14</sup> Nevertheless, the derision Sander faced in the 1950s would be echoed in the experiences of organic winemakers in Germany and around the world for decades to come as the principles of organic and biodynamic farming spread and, little by little, entered the mainstream.

In France, there were several efforts to promote organic farming from the late 1950s.<sup>15</sup> However it was not for a further two decades before organic winemaking got underway. Pierre Frick was among the pioneering organic viticulturists who started in the late 1970s in Alsace, a northeastern region of France bordered by the Rhine. Frick grew up in a family that was mindful of the environment and worked to live in harmony with nature. Over time, Frick developed a “stronger consciousness” on his own. When Frick took over his parents' vineyard in 1976, there were only two other organic viticulturists in Alsace.

The decision to follow organic and biodynamic methods was "a matter of conscience," Frick later remarked. “What drives us, me, is the struggle to keep human life on this planet by preserving our environment.” He added, “humans for a long time were merely trying to survive in their environment; now we control it, we are overpowering it through science.” For Frick, this philosophy compelled him towards activism. He and other biodynamic farmers who called themselves "reapers," banded together to destroy crops that did not comply with regional French organic or biodynamic standards while claiming to do so.<sup>16</sup>

Frick's dedication to environmental stewardship transcended the economics of his business. As he later remarked, “When you have strong beliefs, you should follow them regardless of financial considerations.”<sup>17</sup> Frick's dedication to creating an environmental and

social legacy were part of a broader trend that emerged around the world as the industry developed.

A different but related trend also arose around that time: one in which winemakers and retailers alike sought a more “pure” expression of nature in a glass of wine. These winemakers were influenced by the writings of the French postwar scientist and *négociant* (wine merchant) Jules Chauvet who had become critical of excessive use of additives in wine.<sup>18</sup> These winemakers worked, like Chauvet, in Beaujolais. They included Guy Bréton, Jean Foillard, Marcel Lapierre, and Jean-Paul Thévenet.

The group, which the celebrated American organic wine importer Kermit Lynch would later call the "Gang of Four," was led by Lapierre, who had begun experimenting with no-sulfite-added winemaking in 1978.<sup>19</sup> In the early 1980s, he adopted organic winemaking methods soon after a friend introduced him to Chauvet.<sup>20</sup> Along with the other members of the Gang of Four, Lapierre advocated returning to traditional winemaking methods, based on Chauvet’s earlier work, which avoided the use of synthetic herbicides and pesticides, minimized the use of additives, and rejected chaptalization,<sup>21</sup> among other winemaking practices.<sup>22</sup> Members of the Gang of Four were motivated to adopt organic methods by their desire to make wines that reflected the climate and soil conditions of the year in which they were made, untainted by the flavor of additives or synthetic chemicals.<sup>23</sup>

As organic winemakers like Frick and the Gang of Four discovered, making wine using organic methods was often more challenging in both the vineyard and winery. Organic methods usually required a great deal more manual labor, since they did not allow for the use of synthetic chemicals to prevent fungi, weeds, or insects from damaging their crop. While many organic viticulturists experienced higher operational costs associated with an increased use of labor,

some claimed that their costs rose only during the first few years of organic winemaking and subsequently fell once they developed expertise in organic methods.<sup>24</sup> Studies in Australia, Germany, and New Zealand demonstrated great variability in production costs due to vineyard conditions and management practices, although in many cases the costs of organic farming were higher.<sup>25</sup>

The extra effort and financial burden associated with organic winemaking were major threats to the young category's growth, as many business-minded winemakers often preferred the convenience of conventional methods, as well as their lower financial risks. Indeed, the early organic wine industry was supported largely by the efforts of small-scale winemakers like Frick and Lapierre and his colleagues who were willing to dedicate extra effort in pursuit of their ideals even if that meant shouldering the risk of additional financial costs.

Inhibited by these barriers to entry, the organic wine industry developed slowly. In Italy in the mid-1980s, a winery in Italy adopted organic methods, despite the challenges of organic farming. Steeped in the rich history of Tuscany, the working estate of Badia a Coltibuono (meaning "Abbey of the Good Harvest") sold bottles of Chianti Classico Riserva beginning in 1957. In 1985, Coltibuono's new winemaker Roberto Stucchi Prinetti began converting the estate to organic farming. He was inspired to do so by his earlier studies in biodynamic farming and his exposure to the emerging organic movement in California. Stucchi Prinetti was motivated to convert the estate for a variety of reasons: "Environmental awareness, health of the workers, health of the soil, wine quality, [and] long term cost effectiveness. I could summarize as long-term sustainability." Stucchi Prinetti later observed, "Learning to farm organically has meant questioning and often going against the mainstream agricultural and scientific thinking."<sup>26</sup> Organic wine had not yet been strongly embraced in the country. By 2000 in Italy, alcoholic

beverages made up nearly 5 percent of the conventional food market, while they made up only 0.5 percent of the organic food market.<sup>27</sup>

Organic winemaking spread to Britain around the same time as Italy. The pioneering organic viticulturists Roy Cook and his wife Irma started their own organic and biodynamic vineyard called Sedlescombe in East Sussex in 1979.<sup>28</sup> It was the first vineyard of its kind in Britain. At the time, British grown wine was marginal, and Cook's adoption of organic agricultural methods "raised eyebrows even further."<sup>29</sup> The production of organic wine faced particular challenges. A Britain-based Master of Wine (M.W.), Andy Howard noted, "To produce organic in the UK is a particular challenge because of weather issues.... The cooler, wetter climates are more difficult for making organic wines. [France, Italy, and Spain are] warmer, drier... you've got more possibilities of switching over to organic because you probably need to do less anyway."<sup>30</sup> In the face of these challenges, Cook had been inspired to pursue organic farming after learning about the consequences of pollution and industrialization during his time in college in the 1970s. He used his career as a way of pushing back against what he considered to be the unwelcome tide of modernity.<sup>31</sup>

Spain became another leading producer of organic wine. Although Spain was located within the Old World, the history of its wine industry was far from linear because of political and economic upheavals, including the Spanish Civil War and tight restrictions on foreign investments under Francisco Franco's dictatorship. Beginning in 1970, the country's wine industry began to modernize, and winemakers started to place greater emphasis on quality over quantity, aided by regulations on provenance in viticulture.<sup>32</sup> Winemakers in Spain benefited significantly from the country's ideal grape-growing conditions. Spain's extreme temperatures in

the summer and winter killed undesired insects and maintained dry weather conditions which helped prevent vineyard disease.<sup>33</sup>

A forerunner of organic winemaking in Spain was Josep Maria Albet i Noya, who in the late 1970s began converting his vineyard to organic and biodynamic methods after a Dutch company contacted him in search of a Spanish organic wine producer. After taking a course on biodynamic methods from a former Swedish Minister of Agriculture, Albet i Noya successfully made and sold organic wine, becoming convinced—as his counterparts in other countries had—of the benefits associated with organic viticulture.<sup>34</sup> Other wineries in Spain, including Bodegas Robles and Bodegas Torres, followed suit.<sup>35</sup> However, as indicated by Table 6.1, while Spanish organic wine consumption soared, Spaniards showed little interest in drinking it. By the mid-2010s Spain had become the world's largest organic wine producer, producing some 27 percent of the world total. However Spanish consumers only accounted for 1 percent of organic wine consumption. In contrast, France produced 22 percent of the world's organic wine, and French consumers drank 21 percent of that total.<sup>36</sup>

Within the United States, the state of California was historically the dominant area of wine production. As early as the Gold Rush in the mid-nineteenth century, wine was a lucrative business in the state, spurring entrepreneurially-minded individuals to plant even more acres of vines.<sup>37</sup> California also emerged as the center of counter-cultural movements of the 1960s, during which time a small number of pioneers of organic farming got their start in the state.<sup>38</sup> In the late 1970s, under Governor Jerry Brown, the state became a leader in the development of solar and wind energy. However even in this quite favorable context, organic wine growing was slow to gain traction.<sup>39</sup>

Tony Coturri, an organic winemaker located in Sonoma county, was one pioneer who helped shape the early organic wine industry within California. In 1979, Coturri and other members of his family established Coturri Winery in Glen Ellen, a village in the southern tip of Sonoma county. From the beginning, the family was committed to making wine without the use of pesticides, fertilizers, or additives. Eventually, they also practiced biodynamic methods, becoming certified as both organic and biodynamic in 1991 and 2000, respectively. When the Coturris met with potential distributors, they were often confronted by skepticism. Tony later remembered, “When we went to San Francisco to sell wines to retail shops, one [shop owner] wouldn’t carry our bottles because he was afraid of exploding bottles that would spew biological contamination in his wine shop.” In 2010, Coturri let his organic and biodynamic certifications lapse. Tony explained, “There are a lot of farmers who are definitely organic but are not certified. Certification is an expensive process— it costs money to be involved, and you don’t get any [additional money] for being organic. I used to be certified organic and biodynamic, and it didn’t make any difference.”<sup>40</sup>

Indeed, one widely-cited study that analyzed the retail market outcomes for organic wine found that adding the word "organic" or "biodynamic" to the label of a wine bottle was associated with a 20 percent reduction in price. However, the same study found that organic and biodynamic certification were associated with higher quality (as measured by ratings from the US-based magazine *Wine Spectator*) and if environmental claims were left off the label, certified organic or biodynamic wine enjoyed an average price premium of 13 percent. Perhaps because of this, the study’s authors suggested, as many as two-thirds of California vintners of certified organic wine decided not to advertise their wine as such.<sup>41</sup>

There has been much debate about the origin of consumer confusion regarding organic wine. One study found that consumers may have erroneously believed that organic and biodynamic winemaking methods resulted in wine of lower quality due to an imagined trade-off between quality and environmental goals. The same study found that among low-cost wines from low-quality regions, consumers preferred environmentally-friendly wine to conventional wine, but this preference was reversed among wines of higher prices from higher-quality regions.<sup>42</sup>

There was also the persistent issue of the reputational damage done by a handful of early organic wines. In particular, during the 1970s and 1980s, organic red wines were prone to quickly turn to vinegar in the absence of preservatives like sulfites.<sup>43</sup> This bad reputation lingered, and journalists writing about wine continued to refer to its inauspicious beginning for several decades. Surprisingly, this poor reputation persisted even as organic wines began winning awards, including awards at every prize level at the *Decanter* World Wine Awards, a leading global wine competition organized by the British wine magazine *Decanter*. Indeed, some of the world's most sought-after and expensive bottles of wine were produced in Burgundy at Domaine de la Romanée-Conti, which adopted organic methods in 1985.<sup>44</sup>

Conventional winemakers were often a further obstacle for the organic winemakers. This was the early experience of the Freys in California. In 1980 Frey, along with his wife Katrina, established Frey Vineyards, becoming the first certified biodynamic and organic winery in the country. Jonathan Frey recalled, "At the time, there was no such thing as organic agriculture in Sonoma county. It's a very dry area, very difficult to grow anything here, but modern agriculture was thriving with the use of all these chemicals." The Freys had become interested in organic agriculture when they both studied Permaculture and biodynamic methods under an Englishman named Alan Chadwick at the University of California, Santa Cruz. A highly influential figure in

the history of organic farming in California, Chadwick was a former Shakespearean actor and devoted horticulturalist who taught classes in farming in the 1960s and 1970s to students like Jonathan and Katrina Frey.<sup>45</sup> As they were getting their business started, the Freys also benefited from the advice of Tony Coturri. In the early 1980s, Jonathan Frey approached Tony Coturri to learn more about Coturri's methods for making organic pinot grigio.<sup>46</sup>

When the Freys introduced their first wines to the region, there was a backlash from the established industry. According to Jonathan Frey, "These large companies would finance scientific studies to prove that organic was a joke and didn't have any health benefits." Nevertheless, the Frey wines found some customers, particularly in "hippy-type" stores and cooperatives selling health-conscious products. Larger grocery stores were initially uninterested, as the wines from Frey Vineyards were more expensive than wines made conventionally. The Freys had to explain the time-consuming process that went into making additive-free wine, as well as the health benefits associated with organic products.<sup>47</sup> Their persistence was rewarded. Eventually, Frey Vineyards experienced substantial growth, increasing from an annual production figure of 2,000 cases to 80,000 cases by 2011.<sup>48</sup>

Strikingly, the world's largest wine companies largely remained on the sidelines of organic wine. By the late 1990s, the wine markets had consolidated to a significant degree in New World countries, including the United States, Australia, and South Africa where the top ten wine brands commanded 25 percent or more of the market. The markets remained relatively fragmented in Old World countries.<sup>49</sup> Consolidation accelerated over the next decade. By the mid-2000s, E. & J. Gallo, Constellation Brands, the Wine Group, and Bronco alone accounted for two-thirds of wine production in the United States.<sup>50</sup> Globally, the top ten companies accounted for 13 percent of the world wine market by 2016. The lack of strong support for



organic winemaking methods on the part of large wine companies was a further impediment to organic wine becoming a mainstream product.

There were a few instances in which large companies did promote the category. One such company was E. & J. Gallo Winery, which was founded in California in 1933 by brothers Ernest & Julio Gallo. Julio Gallo, an organic vegetable gardener, brought his organic methods to the company's vineyards. Beginning in the 1960s, the company experimented with organic methods, including integrated pest management systems. By the early 1990s, E. & J. Gallo owned what was believed to be the world's largest organic vineyard – a sprawling 2,700 acres located in the San Joaquin Valley. Additionally, the company encouraged the farmers with whom it partnered to adopt organic practices or, at least, minimize their use of chemicals.<sup>51</sup> In 2010, E. & J. Gallo began participating in the California Sustainable Winegrowing Alliance's (CSWA) certification program for vineyards and wineries. The CSWA program supported the adoption of sustainable practices with respect to environmental, social, and economic concerns. While the CSWA program promoted the use of organic methods, it did not have a restriction for added sulfites similar to that of organic certification in the United States.<sup>52</sup> By 2015, E. & J. Gallo had withdrawn from organic certification.<sup>53</sup>

Chile's Concha y Toro was another large company – by 2017 it was the sixth-largest vintner in the world.<sup>54</sup> Like E. & J. Gallo, Concha y Toro became involved in the organic wine industry, although much more consistently than E. & J. Gallo. Concha y Toro was a wine producer and exporter founded in 1883 by Melchor de Santiago Concha y Toro and his wife Emiliana Subercaseaux. In the 1990s the company began to develop markets outside Chile, and in 1993 shares of the company were floated on the New York Stock Exchange.<sup>55</sup> That same year, a subsidiary of the company named Cono Sur was formed and eventually many of its vineyards

became certified organic.<sup>56</sup> By 2011, Concha y Toro was Chile's top wine producer and exporter by both sales volume and value, which were 271 million liters and over \$874 million, respectively.<sup>57</sup> That same year, Concha y Toro purchased Fetzer Vineyards and its related brands, including Bonterra, among others, for \$238 million.<sup>58</sup> Fetzer had been producing wine made from organic grapes at the time of the sale, and Bonterra had been producing wines from both organic and biodynamic grapes. Under the management of Concha y Toro, they both continued to do so. The latest CEO of Concha y Toro was Eduardo Guilisasti Gana, a member of Chile's powerful Guilisasti family. It is noteworthy that this same family owned Emiliana Vineyards, the world's largest organic and biodynamic vineyard as of 2017.<sup>59</sup> Emiliana Vineyards was named after Emiliana Subercaseaux, but was operated separately from Concha y Toro.<sup>60</sup>

Other large wine companies engaged only marginally in the organic wine industry. For example, Treasury Wine Estates owned the Australian winery Baileys of Glenrowan, which began converting to organic practices in 2008 and sold its first organic products in 2012.<sup>61</sup> Another major wine company called The Wine Group acquired in 2015 the Benziger Family Winery, which sold certified biodynamic, organic, and sustainable wine, but was just one of over twenty brands in the company's portfolio.<sup>62</sup>

A recurring theme among pioneers of organic wine around the world was that they were largely united in one of two missions. The first was a mission to keep foods and land clear of harmful chemicals that threatened human health and the natural balance and processes of the environment. The second mission was to create wine that expressed its provenance vividly through its *terroir*. Since organic winemaking did not tend to command higher profits, monetary motivations rarely played a role in the industry's development. Furthermore, none of the

pioneers paint the picture of a flippant hippy in pursuit of a cheap, organic buzz. Rather, all of these individuals took winemaking seriously. Their motivations for making wine differently, indeed, pushed them to develop a sharp understanding of the art and science of winemaking.

### **III PIONEERING RETAIL AND DISTRIBUTION OF ORGANIC WINE**

As bottles of organic wine entered the marketplace, distributors and retailers interested in the category encountered many of the same opportunities and challenges that winemakers encountered in the vineyards and winery, as well as several new ones. In significant part, it was due to the efforts of these individuals that organic winemakers were able to find an audience.

Kermit Lynch, who opened his wine store in Berkeley, California in 1972, was to become a forerunner in the organic wine industry, although he did not know it at the time. Lynch did not start his company with the plan of selling organic wine. Instead, he was drawn to it over the course of his business. To learn more about the wine industry and identify the best wines, Lynch undertook road trips in France and Italy. As Lynch met with more and more wine producers, he developed expertise — and a strong opinion— on winemaking methods in the vineyard and winery. In his 1988 book, *Adventures on the Wine Route*, Lynch asserted, “Chemicals increase production, they protect the wine from nature’s quirks, but they also muck up the elemental statement the wine is capable of making.”<sup>63</sup> Yet, Lynch acknowledged the shortcomings of organic wine as a product. He wrote, “‘Organic’ is a word that does not work in a wineshop.... The word seems to have a negative impact on most wine connoisseurs.”<sup>64</sup>

Lynch’s views of organic wine changed over time. Since Lynch actively sought out wines that expressed *terroir*, his taste preferences led him to import wine made using organic methods.

Indeed, upon discovering the Gang of Four, Lynch was very pleased that the “spirit of Chauvet” lived on in Beaujolais.<sup>65</sup> Lynch, who would eventually earn France’s celebrated *Legion d’Honneur*, became a notable importer of wines produced by the Gang of Four, as well as many other organically-produced bottles of wine.<sup>66</sup> By the 2010s, his company’s website would clearly indicate the farming methods used by the winemakers whose products he sold, marking a departure from his earlier belief that wine sellers should avoid using the term “organic.”

A little over a decade after Lynch launched his business, Ursula and Erich Hartl established Germany’s first commercial enterprise to sell organic wine. Erich had grown up in rural Bavaria, and worked in the conventional restaurant and catering business. Becoming more concerned over time about the use of fertilizers in foods, the family decided to start a business in organic wine distribution. The problem was supply; Germany didn’t produce a large quantity of organic wine. “When we started in the early 1980s, there was no ‘catalog’ of organic wines, and finding an organic winemaker in Germany was impossible,” Erich Hartl later remembered. “It was by accident that I came across this organic winemaker in France. I established a relationship with the producer, I tried his wines, I liked them and started importing them by small quantities in Germany. Then I traveled around to meet with organic winemakers, and started importing more and more wines from different countries.”<sup>67</sup> In this way, the Hartls helped broaden consumer exposure to organic wine, motivated by their desire to sell only “pure” wine. Eventually, Germany would become the world’s leading importer of organic wine.<sup>68</sup>

In 1986, just a few years after the Hartls established their importing company, another pioneering organic wine distribution company got its start in Britain. Three friends— Peter Greet, Neil Palmer, and Lance Pigott— were each in their mid-twenties when they decided to start an organic wine distribution company called Vintage Roots in the middle-sized town of

Reading outside of London. Greet, Palmer, and Pigott had known each other from their time at university and from traveling together in France the previous year, when they harvested grapes together in the Loire Valley. In France, the three travelers learned about the new trend of organic winemaking in Bordeaux and the Loire Valley, which was a novelty to them at the time. Many of the organic winemakers with whom they spoke had switched to these methods after seeing family members endure the negative health consequences of synthetic chemicals in their vineyards.<sup>69</sup>

Inspired by what they learned in France and by their broader interest in healthful foods, Greet, Palmer, and Pigott founded Vintage Roots together back in Reading as a way to work for themselves while promoting a product they firmly believed in. To get their business off the ground, the three founders began with a short list of addresses of organic vineyards in France, and just as Lynch had done, they traveled to France to conduct research for their first wine list, which consisted of just twelve wines. Eventually, they took on wines from Italy and Spain, and later, they also began to source wine from Chile, Australia, and South Africa, among other countries.<sup>70</sup>

Initially, Vintage Roots tried to establish relationships with small, independent, healthful-lifestyle shops in Britain. Making matters difficult, few of these kinds of shops tended to have licenses to sell alcohol. For small shops, it often wasn't worth it to take on all of the paperwork and fees in order to sell alcohol. When the founders of Vintage Roots were able to find shops that could sell alcohol, often the employees had no prior experience with organic wine and would ask whether there was alcohol in it, or whether it was made from carrots or lentils. The Vintage Roots founders would explain the environmental and human health benefits of organic wine, relative to conventional wine, in attempts to win their business.<sup>71</sup>

Vintage Roots found their early customers in small independent stores. Eventually, they also formed business relationships with major supermarkets, including Asda, Sainsbury's, Tesco, and Waitrose. However, Palmer later noted, these relationships dwindled over time, as the supermarkets demanded lower prices from Vintage Roots and eventually decided to deal directly with wineries to source their products. Even without support from supermarkets, Vintage Roots grew into a sizeable business, eventually employing over 15 staff members and expanding its inventory to include other types of organic spirits and foods.<sup>72</sup> In 2016, the company's annual turnover was approximately \$6.9 million.<sup>73</sup>

The employees that the Vintage Roots founders encountered who thought organic wine might contain carrots or lentils touched on a broader error in consumer perception of the product. Beyond not knowing what exactly went into organic wine, some consumers also assumed that organic wine must somehow be less enjoyable than conventional wine. Since wine was historically viewed as an indulgence both psychologically and physically, attaching a health-related term like "organic" may have tainted consumer perception of the pleasurable sensory and cultural experience wine was often expected to provide. As Adam Morganstern, Editor of the *Organic Wine Journal* later noted, "With organic vegetables it seems great – who doesn't want organic asparagus? But with wine... it causes a momentary question – such as, 'What did they remove to make it organic? Did they take something fun away? Is this like 'diet' soda?'"<sup>74</sup>

Organic wine reached Japan decades later than it did in the West. This was not surprising given that drinking Western wine was not widespread until the 1990s. The country had its own traditional beverages, such as the rice wine known as sake. Japan was also a large consumer of beer, which had been introduced from the West during the second half of the nineteenth century. Both imported and domestically-made spirits, especially whiskey, were also very popular. There

were particular challenges in the organic sector. In Japan, the traditional translation of “organic” was “yuki,” but unfortunately, this word was also associated with radical political groups during the 1960s and 1970s. Organic food consumption was, and remained, quite limited, even as it grew in the West. Japan did not even enact a national policy to define organic food until the early 2000s.<sup>75</sup>

Nevertheless, as elsewhere, there were entrepreneurial pioneers who set out to create a market for organic products in Japan. In 1998, Yasushi Tamura started an organic wine distribution business in Tokyo called Mavie, which began as an ecommerce website. Tamura had first encountered organic wine in the late 1980s on a business trip to Germany, when he was a marketing manager for the Japanese soy sauce company Kikkoman. At the time, he did not find the beverage to his liking. However, after moving to France in the early 1990s, he tried an award-winning organic wine from Bourgogne that reminded him of world-renowned Romanée-Conti wine, and the experience stayed with him. After quitting Kikkoman, Tamura worked for a brief time for his father’s company, a Japanese culinary school, but soon decided to leave in order to found his own company and conduct business in the international market. To better inform his decision about what kind of company he wanted to build, Tamura looked at the statistics for different food trends in Europe, and it appeared that the only kind of food with favorable projections was the organic category. Based on its growth figures, Tamura expected that the job of selling European organic products to the Japanese would be simple.<sup>76</sup>

By the time Tamura entered the industry in 1998, there were plenty of organic wine producers to choose from in the Europe. He started off by using all of his money to buy 20,000 bottles of organic wine, which left him with nothing to spend for marketing.<sup>77</sup> Further complicating prospects for his business, Tamura discovered that, at that time, people in Japan

thought that conventional wine was healthful, due to studies praising the polyphenol content of red wines.<sup>78</sup> This phenomenon can be seen elsewhere. : In New Zealand in the same time period, purveyors of organic food found that the “imagined greenness” of conventional food was a difficult perception for consumers to overcome.<sup>79</sup> This was a challenge that Tamura and other organic winemakers and retailers had to contend with to achieve market growth.

Like the large wine companies, supermarkets, too, largely failed to take a leadership role in helping organic wine gain broader appeal among the public and establish legitimacy as a genuine category. Even organic supermarkets were reluctant to stock organic wine. For example, Whole Foods Market, which by 2010 accounted for over one half of organic food sales in the United States, did little to promote organic wines, which made up a modest fraction of its wine section.<sup>80</sup> Instead, the company favored conventional and “sustainably”-produced wines, and added in additional selections of organic wine only in response to customer demand for it in the 2010s.<sup>81</sup> Supermarkets in Britain, too, acted largely in reaction to the rise in organic wine’s popularity, rather than spurring its initial growth.<sup>82</sup> In the face of consumer confusion around the product, as well as negative perceptions of its quality, supermarkets often didn’t know how to effectively market the product, prior to its surge in popularity. Andy Howard, M.W., who worked as a wine buyer for the large British food retailer Marks & Spencer from 2007 until 2013, observed,

“In the wine category, we used to think, how do you best display wines? Most people display wines by country of origin, or by type of wine, then different price points. We used to have a very good organic Chablis at Marks & Spencer from a producer called Domaine [Jean-Marc] Brocard. It sold reasonably well. Then we decided to put all organic wines in a separate section and call it the ‘organic wine section.’ And at that point, the sales plummeted. It would appear that people didn’t really understand or didn’t want to get diverted to what was seen as this, perhaps, slightly dangerous area where they weren’t sure what organic meant. Then we moved the organic Chablis back into its parent group, and sales recovered.”<sup>83</sup>



Thus, organic wine faced significant adversity in the vineyard and winery, all the way to the marketplace where it struggled to sell, at least when consumers were aware of the organic methods used in its production. While organic winemakers gained the sponsorship of small maverick distributors and retailers, it wasn't until much later that larger companies would take a more active role in the marketplace.

#### **IV EMERGENCE OF ORGANIC WINE CERTIFICATIONS**

Over time, certification schemes emerged as a way to define organic and biodynamic winemaking methods, as well as to validate claims made by winemakers about their production methods. Though Demeter's biodynamic trademark and farming standard emerged in 1928, it was not until the 1970s that other organic farming standards were introduced.<sup>84</sup> Although certification schemes were intended to provide clarity and reassurance to consumers, they often led to great confusion about the nature of the term "organic." Across the different countries in which certification schemes developed, varying standards emerged to define organic winemaking processes. Complicating matters for organic winemakers, it would take until the 2010s for matters to settle regarding organic wine processing standards and trade equivalencies in major wine markets, including the United States and the European Union (EU).

Germany was a site of important activity for efforts to standardize organic viticulture. In 1977, organic wine producers from Germany, Switzerland and France convened in order to exchange information on the subject and make organic methods more accessible to others. Following this meeting, regional groups of organic farmers published standards for organic viticulture and winemaking methods in an early attempt to encourage standardization of practices.<sup>85</sup> In 1985 a further attempt to achieve some coherence in Germany came when the *Bundesverband Ökologischer Weinbau* (Federation of Organic Viticulture) was formed by

Rudolf Trossen and 34 other small organic producers in Germany. Membership grew rapidly, and the federation launched the ECOVIN trademark five years later.<sup>86</sup> Since then, ECOVIN has become the largest association of organic winemakers in Germany, requiring its members to abide by EU organic regulations as well as its own stricter regulations and undergo yearly inspections to uphold the ECOVIN seal's integrity.<sup>87</sup>

Within Britain, the Soil Association served as a highly important organic certification and advocacy group.<sup>88</sup> The Soil Association launched its organic certification scheme in 1973 as a way to address the market need for third-party verification of food integrity. As was the case in all EU countries before 2012, winemakers in Britain were not allowed to use the term “organic wine,” and instead were limited to writing “made from organic grapes” on their labels, as the EU lacked an official definition for an “organic” winemaking process. The Soil Association, too, was constrained by these EU regulations. Lee Holdstock, Trade Relations Manager at the Soil Association, said this labeling requirement was “inevitably confusing to consumers.” He added, “We always felt we were tackling a challenge of helping consumers to understand the benefits and definitions of ‘organic.’ To add an extra layer of complexity by having products labeled in this slightly more unwieldy way was really unhelpful.”<sup>89</sup>

In France, the first national policy concerning organic farming was enacted in 1980, and five years later the organic certification *Agriculture Biologique* (AB) with an accompanying logo was introduced.<sup>90</sup> AB was administered by Agence BIO, a French national agency responsible for the development and promotion of organic farming. In 1992, the Association des Vins Naturels (AVN) was founded to create a framework for organic wine production that went beyond the simple cultivation of organic grapes to include activities in both the vineyard and winery.<sup>91</sup>

Within the United States, a number of private organizations offered organic certification for decades. For example, California Certified Organic Farmers (CCOF) was established in 1973, making it the first organic certifying entity in the US.<sup>92</sup> It was not until the 1990s that the federal government stepped up to introduce a regulatory framework within the industry. As part of the US Farm Bill, the Organic Foods Production Act of 1990 called for the establishment of the National Organic Program (NOP) and National Organic Standards Board (NOSB). After much debate, the final rules for the NOP were written and implemented in the fall of 2002.<sup>93</sup>

Under the rules laid out by the NOP and the Alcohol and Tobacco Tax and Trade Bureau, wine may be certified organic if it was made from organic grapes and contained no added sulfites, along with other, more subtle requirements. Sulfites were commonly used in wine as a preservative of flavor and quality. If a winemaker wished to add sulfites, then provided that the added sulfites numbered less than 100 parts per million, the wine may then be sold as “made with organic grapes.”<sup>94</sup> Wines made from organic grapes that contained added sulfites in the United States were required to feature a label that stated, “Contains sulfites.” The USDA mandated that wine bottles carry sulfite statements in order to properly warn consumers who may have an allergy to the substance. One study published by the Journal of the American College of Nutrition found that 0.05 percent of the US population had an allergy to sulfites, of which the most common adverse reactions were asthma symptoms.<sup>95</sup>

Following the implementation of the initial rules for organic wine, debate over the use of sulfites became heated. Paul Bonetti, president of an organic import business in Colorado, along with the winery Barra of Mendocino, winemaker Paul Dolan, and Redwood Valley Cellars, petitioned the NOSB to allow the use of added sulfites in certified organic wine.<sup>96</sup> The group, which had formed “just a few months before the annual NOP meeting in Sacramento,” argued

that prohibiting the addition of sulfites in organic wine made obtaining organic certification more difficult.<sup>97</sup> This added roadblock, they believed, would reduce the number of winemakers who chose to undergo certification, thereby indirectly increasing the use of substances the group perceived as more nefarious than sulfites, such as pesticides and fungicides.<sup>98</sup>

Among the opposing group's especially vocal members were Jonathan and Katrina Frey, co-owners of Frey Vineyards. Speaking before the NOSB weeks before the vote on an amendment proposing the addition of sulfites to organic wine, Jonathan Frey noted that “every winemaking problem can be solved with methods... that don’t involve sulfites.”<sup>99</sup> For her part, Katrina Frey appeared on the San Francisco-based radio show *Organic Conversation* to advocate her views, noting that sulfites were a “very useful winemaker tool,” but that they should not be allowed under organic standards, since sulfites were synthetic and a known allergen— two properties that some organic food consumers wanted to avoid. She also noted that the NOP's rule clearly stated that if a food can be made without additives, then that “should be the standard operating procedure.”<sup>100</sup>

In December 2011, the NOSB voted to reject an amendment to the rules that would have allowed sulfites to be added to wine certified as organic, up to a total of 100 parts per million, including naturally-occurring sulfites.<sup>101</sup> Steve Finkel, owner of Organic Vintages, a distribution company based in New York, said after the ruling, “I am elated that we have prevented the proposed rule change which would have caused much confusion resulting in consumers being easily misled and misinformed. Instead, I am very happy to report, this victory has insured the continuation of clear, honest, and forthright labeling of organic wine.”<sup>102</sup> Paul Dolan, who had petitioned in support of the amendment, later observed of the decision, “I believe it was simply the power and influence of those no sulfite folks who had the ear of the Board.”<sup>103</sup>

In the EU, the rules for organic certification developed quite differently. In 1991, just one year after the United States introduced its Organic Food Production Act, the European Commission introduced its first regulatory framework for organic food, but there were no standards for organic alcohol. As a result, wines in the EU could only claim to be “made from organic grapes.” Private organizations and non-profit agencies like Demeter and the Soil Association could continue to offer organic certifications to winemakers, although they were constrained by the EU’s organic regulations for wine.<sup>104</sup>

In 2005, the EU introduced legislation that required wine containing sulfites over 10 parts per million to include a label bearing a sulfite statement.<sup>105</sup> That same year, the European Commission made a call to understand the science underlying organic winemaking methods, which led to the establishment of the ORWINE Project in 2006. The purpose of the ORWINE Project was to determine the implications of organic winemaking practices on wine quality and the environment, identify market demand for organic wine and its requirements for labeling, develop a code of best practices for viticulturists, and provide recommendations for future EU regulations, among other related activities. The Project involved an array of partners from major wine-producing countries in the EU, including Germany’s ECOVIN and IFOAM EU from Britain and Belgium. During the course of the project, its members took into account organic regulations developed by other countries that were considered major export markets for wine from the EU, including the United States and Japan. The ORWINE Project surveyed nearly 500 organic winemakers, representing about a fifth of EU organic wine producers at the time. In the summer of 2009, the Project submitted a set of recommendations for a future regulatory framework on organic winemaking in the EU.<sup>106</sup>

In 2009, the Commission began working to implement regulations for organic winemaking, but as was the case in the United States, debate over the use of sulfites became so heated that, the next year, the Commission suspended the rules. After significant prompting from individuals in the organic sector, the Commission recommenced discussions to develop and finalize regulations for organic wine. The group was able to achieve compromise regarding the use of sulfites by developing different categories of organic wine based on residual sugar content and varying levels of sulfite limitations. According to the new framework, a wine could be certified organic if it was made from certified organic grapes and if the sulfite level remained below 100 parts per million, whether naturally-occurring or added. The new regulations were formally introduced in the EU in 2012, allowing organic wine to be labeled as such, along with the EU organic logo.<sup>107</sup>

That same year, the EU and United States developed an organic equivalency agreement that would allow certified organic products to be traded freely among their member states. Wine that was certified organic in the EU but contained sulfites could be sold as “made with organic grapes” in the United States, while wine sold as “made with organic grapes” in the United States could be sold as organic in the EU.<sup>108</sup> This agreement paved the way for easier trading of organic wine between many major wine markets.

**Table 2 Maximum Sulfite Use by Wine Category, 2017**

Wine Category	Maximum Sulfite Use by Wine Category	
	United States	EU
Organic	<ul style="list-style-type: none"> <li>• “Organic” wine may contain up to 10 ppm of sulfites</li> <li>• Wine “made with organic grapes” may contain up to 100 ppm of sulfites</li> </ul>	<ul style="list-style-type: none"> <li>• “Organic” wine with less than 2g/l residual sugar:               <ul style="list-style-type: none"> <li>○ Red: 100 ppm</li> <li>○ Whites and rosés: 150 ppm</li> </ul> </li> <li>• “Organic” wine with more than 2g/l residual sugar:               <ul style="list-style-type: none"> <li>○ Red: 130 ppm</li> <li>○ Whites and rosés: 180 ppm</li> </ul> </li> </ul>
Biodynamic	<ul style="list-style-type: none"> <li>• Total maximum measured sulfites at bottling cannot exceed 100 ppm</li> </ul>	<ul style="list-style-type: none"> <li>• Wine with less than 5g/l residual sugar:               <ul style="list-style-type: none"> <li>○ White: 140 ppm</li> <li>○ Red: 110 ppm</li> </ul> </li> <li>• Wine with greater than 5g/l residual sugar:               <ul style="list-style-type: none"> <li>○ White: 180 ppm</li> <li>○ Red: 140 ppm</li> </ul> </li> </ul>
Conventional	<ul style="list-style-type: none"> <li>• Total maximum measured sulfites at bottling cannot exceed 350 ppm</li> </ul>	<ul style="list-style-type: none"> <li>• Red wine: Total maximum measured sulfites at bottling cannot exceed 150 ppm</li> <li>• Whites and rosés: Total maximum measured sulfites at bottling cannot exceed 200 ppm</li> </ul>

*Sources:* Demeter International e.V., “Standards”; Demeter-USA, “Demeter”; European Commission, “New”; Nigro, “U.S.”

The multiple layers of organic wine regulations that emerged over time amounted to a bureaucratic maze of paperwork and headaches for many organic winemakers. For example, Pierre Frick had to comply with guidelines set by the region in which he worked, the French Ministry of Agriculture, European Commission, and private certifying organizations like Nature et Progrès or Demeter. Adding further complexity, states within the United States defined the term “sulfite free” differently, which had implications for organic claims made by winemakers.

Frick noted, “[On our wine bottles] when our sticker said ‘sulfite-free wine’ it was enough for some states to qualify as organic, while other states required us to put ‘no added sulfite’ on our stickers to be more accurate. For example, our wines are accepted in California as ‘organic,’ but not in the state of New York. Sometimes all it takes is a change of employee in an administration, and the rule changes again.” This situation meant that Frick had to spend a great deal of time and energy working to comply with these regulations, which otherwise he would have devoted to winemaking.<sup>109</sup>

The complex regulatory landscape for organic wine largely served to slow its growth. As Andy Howard, M.W., later remarked, “I think for organic, the problem’s almost been, there’s been too many different certifications.... I think organic has suffered a bit from this confusion as to knowing exactly what the official standard is, and what exactly does that mean.”<sup>110</sup>

On the other hand, Biodynamic certification retained a relatively stable, cohesive image over time, as Demeter trademarked the term and kept a tight rein on its use in international markets. Furthermore, Demeter USA adopted standards that allowed its certified wines to contain up to 100 ppm of sulfites, which was much less rigid than the organic certification criterion for sulfites in the United States.<sup>111</sup>

The NOP’s decision to disallow the use of sulfites in organic wine made the path to producing organic wine significantly more difficult. Following the NOP’s decision, Bonetti asserted, “If we could put everyone into the same category who is using 100 percent organic grapes, there could have been about 800 more winemakers around the world who could get into the US market and use the USDA Organic seal.”<sup>112</sup> Although organic wine could, in fact, be made without sulfites (as winemakers like Jonathan and Katrina Frey demonstrated), the complex process involved dissuaded many winemakers from attempting to do so.



Even the EU's much higher limits on the use of sulfites were a challenge for some winemakers to comply with. The British organic winemaker Will Davenport later commented, "In the winery it required a bit of a re-think about how we use sulphites. This took me a year or two to adapt to the 100 mg/L maximum limit and work out how I could guarantee to be below the total sulphite limit every year with every wine."<sup>113</sup> Evidently, organic certification requirements for wine made winemaking processes even more convoluted and reduced the appeal of entering the market.

Within the United States, some winemakers decided against becoming certified organic by the USDA because they viewed sulfites as essential to ensuring the reliability and quality of their wine. According to organic winemaker Tony Coturri, "When you ask a winemaker why they add sulfites to wine, they often say, 'I have a big investment in my company, and I can't afford to lose it.'"<sup>114</sup> Since winemakers were worried that their wines would have a shorter shelf life, demonstrate inconsistencies in flavor over time, and oxidize more quickly, they were apprehensive about adopting organic methods.

Adding further to the list of reasons why some winemakers were not compelled to undergo certification was their desire to retain control over their methods in the vineyard. These winemakers feared that undergoing certification would obligate them to adhere strictly to the organic requirements. Jim Clendenen, owner of the California-based organic winery Au Bon Climat, said he was put off of organic certification, since it would restrict his ability to respond quickly to local vineyard pests which seriously threatened his crops.<sup>115</sup> Additionally, many winemakers decided not to pursue certification because they felt that conventional winemakers – not those producing organic wines – should be the ones to take on the burden of certification.<sup>116</sup>

While organic certification provided some degree of legitimacy to organic claims on wine labels, they added great confusion to the marketplace and scared many prospective winemakers away from organic methods, due to their restrictive criteria and what was sometimes perceived as an unfair burden.

## **V THE CONTRAST WITH ORGANIC TEA**

The market for organic tea developed differently than did the organic wine market. The tea industry as a whole had a different geographical distribution than wine. The major tea growing nations were in South Asia, China, and East Africa.<sup>117</sup> In the mid-2010s, the biggest markets for tea were China, Russia, Japan, the United States and India, although in per capita terms Turkey, Ireland and Britain were among the highest consumers of tea.<sup>118</sup>

As with wine, early tea was produced organically until the advent of synthetic fertilizers and pesticides. Beginning in the 1940s, the Indian government pushed for rapid industrialization, and tea gardens were no exception. In an effort to make tea gardens more profitable, plantation owners demolished tea terraces which had helped to protect the soil, removed trees and other vegetation in order to add more tea bushes and embraced the synthetic chemicals of the West.<sup>119</sup>

By 1986, Indian tea producers in the highly-regarded Darjeeling region began returning to their organic origins, spurred on by shifts in their markets. First, when the Soviet Union— which had been a major destination for India’s tea exports— collapsed in the 1990s, India suffered from a severe drop in the price of tea. The Soviet market, to which vast quantities of tea had been exported, had maintained minimal quality requirements, and the quality of tea had declined precipitously.<sup>120</sup> At the same time, due to the absence of strict standards regarding the labeling of

tea in India, many tea producers were selling tea blends labeled as “Darjeeling” but which actually included lower-quality tea from other regions.<sup>121</sup> Finally, in the early 1990s, some countries in Europe, particularly Germany, had begun to monitor pesticide levels in tea imports more carefully.<sup>122</sup> Due to diminished consumer confidence in the quality of Darjeeling tea, as well as due to heightened demand in Europe for organic tea and consumer willingness to pay a price premium for the product, tea producers in Darjeeling began to convert to organic methods, with others in Assam and other regions soon following suit.<sup>123</sup> Sanjay Bansal, a prominent figure in the Indian tea industry, began purchasing tea gardens in distress and converting them to biodynamic methods to bring them back to healthy production.<sup>124</sup> Additionally, tea producers in Darjeeling, in partnership with the government, developed a geographical-origin trademark for the region in order to protect their product from fraud.<sup>125</sup>

Within the large American market, organic tea also attracted the attention of entrepreneurial start-ups such as Honest Tea, a ready-to-drink tea company founded in 1998, which introduced the world’s first organic bottled tea in 1999. By 2001, half of Honest Tea’s products were organic.<sup>126</sup> The company was successful in marketing organic tea as an approachable product.<sup>127</sup> In 2008, the giant Coca-Cola company purchased, for \$43 million, a 40 percent stake in the company.<sup>128</sup> By 2010, Honest Tea’s sales had tripled to total \$72 million, and the next year, Coca-Cola purchased the company outright.<sup>129</sup> In 2015, Honest Tea reached \$178 million in sales— about 3.2 percent of the United States ready-to-drink tea market.<sup>130</sup>

The market for organic tea strengthened considerably over time. While India led the production of organic black tea, China emerged as a powerhouse for the production of organic green tea.<sup>131</sup> In the mid-2000s, India exported three-quarters of its organic tea production to France, Germany, Japan, Britain, and the US, while China exported slightly under half of its

production to countries in the EU, as well as Japan and the US.<sup>132</sup> By the mid-2010s, nearly all of the world's top tea brands, including Twinings, Tazo, and Harney & Sons, sold varieties of organic tea. In 2014, the American herbal tea company Celestial Seasonings partnered with Whole Foods Market to distribute its organic line of teas on a national scale.<sup>133</sup> In 2015, two companies that comprised more than half of the tea market in India announced a joint initiative to invest in research to evaluate the economic and environmental feasibility of phasing out the use of conventional pesticides in tea production in India.<sup>134</sup> That same year, "organic coffee and tea" was ranked as the top category in the international market for organic beverages.<sup>135</sup> Unlike organic wine, large corporations such as Coca-Cola were increasingly prominent in organic tea. In 2017 Unilever, whose Lipton brand was already active in organic tea, acquired Pukka Herbs, a British organic tea start-up inspired by Ayurvedic philosophy, which had reached \$39 million in sales by that year.<sup>136</sup>

Organic tea also benefited greatly from lower barriers to entry than organic wine. The product did not require a special license to sell in supermarkets or independent stores, as alcohol did. Furthermore, its organic certification process was straightforward, relative to that of wine. Even though bottled organic tea involved a process of steeping, it did not involve complicated additional layers of regulations that made the process difficult or financially risky, as was the case with wine.<sup>137</sup>

By 2017, third party certification of sustainable practices for tea seemed to be crumbling. That year, the British supermarket retailer Sainsbury's decided to withdraw from Fairtrade certification of tea and instead follow an in-house standard, which the company termed "fairly traded." The decision prompted speculation that Sainsbury's and other major retailers would use their own ethical standards for a broader array of products in the future, potentially including

organic products. If this were to happen, the market for organic tea would become highly fragmented, similar to that of organic wine.<sup>138</sup>

## **VI THE CONTEMPORARY PERIOD**

There were indications that consumer interest in organic wine began to accelerate in the mid-2000s, perhaps as a result of what one winemaker described as a “combustion reaction between ethics and aesthetics.”<sup>139</sup> Organic wine emerged as popular in wine bars and fine-dining restaurants in cosmopolitan big cities in Europe and the United States, including the restaurant Rouge Tomate in New York, Terroir in San Francisco, and Vivant and La Crèmerie in Paris.<sup>140</sup>

The Copenhagen-based restaurant Noma, which was named the World’s Best Restaurant in 2010, 2011, 2012, and 2014 developed a wine program with a special focus on organic wine.<sup>141</sup> Shortly after Noma opened in 2003, its owner René Redzepi recruited Pontus Elofsson to develop a wine program. The initial program was relatively conventional, but after the first few years Elofsson slowly began to add in wines with a “more green profile”<sup>142</sup> as they became increasingly available on the market in Copenhagen. When Mads Kleppe took over as Head Sommelier in early 2010, he was initially frustrated by the unusual experience of drinking organic and biodynamic wines, which offered a very different set of flavors and textures than those of conventional wines. However, he quickly learned “to taste all over again,” and rebuilt the wine program to have a “more clear profile” by working exclusively with organic and biodynamic winemakers.<sup>143</sup>

Aside from the wines he selected for the wine program, Kleppe also took an unconventional approach to the way in which Noma served wines. In 2017, he worked with a glassmaker to develop customized glasses for the restaurant that featured rounded rather than cut

lips— a more natural shape for glass to take. Additionally, when serving guests, Kleppe chose not to use terms like “organic,” “biodynamic,” or “natural” to describe the wines he poured, nor provide obscure information about the wine’s origin, since the technical details of winemaking were often confusing to guests. Instead, Kleppe chose to explain why he selected the wines he did in simple terms, and if guests didn’t find the wine to their taste, he offered alternative options. Kleppe stressed that this way of communicating with guests about unusual wines was a better way of introducing wines that otherwise might feel too provocative to them.<sup>144</sup>

Acceptance of organic wine was, however, patchy. In New World regions, production of organic wine failed to become mainstream, perhaps as a result of the lack of domestic demand for the product, absence of organic regulations in many of those countries, and the often enormous scale of vineyards.<sup>145</sup> In the United States, organic wine continued to be largely inconsequential. In 2017 only 2 percent of vineyard acreage in California was organic, representing a 10 percent decline in organic vineyard acreage over the previous four years.<sup>146</sup> In contrast, northwest Europe stood out as an epicenter for organic wine, although with considerable variations between countries. The British market remained modest, even if some London-based Millennials bought more than they had in the past.<sup>147</sup> In contrast, Germany’s market for organic wine was worth \$245 million in 2012, while France’s market was worth \$511 million that year.<sup>148</sup>

A particularly strong market for organic wine emerged in Scandinavia. In Denmark, by 2014, sales of organic wine exceeded \$13 million. By contrast, Italy, with a population ten times bigger than that of Denmark, consumed just five and a half times as much organic wine, by value.<sup>149</sup> Meanwhile, in Sweden, organic wine consumption strengthened, due to an effort on the part of Systembolaget, the state-owned alcohol monopoly, to increase sales of organic products

to 10 percent of overall sales by 2020. In pursuit of its goal, Systembolaget employees strategically placed organic wine around the stores.<sup>150</sup> While 6 percent of the wine sold at Systembolaget in 2011 was organic, by 2014, the company described seeing a "sea change" in consumer preferences for organic products.<sup>151</sup> Organic wine accounted for 21 percent of Systembolaget's overall wine sales in 2016.<sup>152</sup> Just as consolidation in a marketplace (such as the overall wine industry, or even New Zealand's food retail sector) can prevent take-up of the organic category, areas in which just one or two companies control the market can also dramatically turn the tide in favor of organic.

## **VII CONCLUSION**

In comparison to organic tea (and some other organic beverages, such as milk), organic wine provides a case study of failed new category creation. For decades, the anticipated additional costs of organic farming and certification, in combination with the lower price points at which (labeled) organic wine tended to sell, discouraged most conventional winemakers from entering the organic industry. Early experiments performed by less-savvy winemakers created a negative reputation for organic wine which proved a challenge to overcome. Of the winemakers who did adopt organic methods, many were derided for their efforts, as conventional winemakers felt threatened by their claims to "natural" or "organic" winemaking. Additionally, organic winemakers encountered great complexity in their work, as organic winemaking required close attention to detail and a sophisticated understanding of environmental and chemical processes in the vineyard and winery.

The development of organic wine in different countries with various winemaking traditions resulted in little common agreement regarding the definition of "organic" wine. In

contrast with some other organic agricultural products, organic wine standards took a great deal of time to develop. This reflected that organic wine was a more complex product due to the way in which it was processed. After a great deal of heated debate regarding the use of sulfites, differing organic wine standards emerged. This necessitated further policy development, as the United States and EU had to work to develop equivalency agreements for organic wine. For winemakers, distributors and retailers, the complex layers of regulations regarding organic wine required a great deal of time and effort to understand and address. Many winemakers avoided organic certification so as to avoid the bureaucratic paperwork, risk, cost and in some cases the perceived unfairness of the program. The contrast with organic tea was striking.

Organic wine finally attained a modest niche popularity in the 2010s, particularly in northwest Europe, and in metropolitan areas elsewhere where fine-dining restaurants and wine bars sought artisan-made wines with clear *terroir*. After all of the time that had passed, there was some evidence that the negative consumer perceptions that had haunted the organic wine industry had begun to dissipate, although certified organic wine remained a tiny percentage of the world wine market.

### **Acknowledgements**

The authors would like to thank Loubna Bouamane and Mayuka Yamazaki for their research assistance with this working paper, and the Division of Research and Faculty Development at the Harvard Business School for its support.

### **References**

Albet i Noya (n.d.), “Going organic,” [www.albetinoya.cat/eng/inicis.php](http://www.albetinoya.cat/eng/inicis.php) (accessed August 2, 2017).



- Aldrich, H.E. and C.M. Fiol (1994) "Fools rush in? The institutional context of industry creation," *Academy of Management Review*, 19, 645-670.
- Alley, Lynn (2002), "New USDA rules on organic labeling mean changes for wineries," *Wine Spectator*, April 19, [www.winespectator.com/webfeature/show/id/New-USDA-Rules-on-Organic-Labeling-Mean-Changes-for-Wineries\\_21261](http://www.winespectator.com/webfeature/show/id/New-USDA-Rules-on-Organic-Labeling-Mean-Changes-for-Wineries_21261) (accessed August 2, 2017).
- Anderson, Kym (2004), *The world's wine markets: Globalization at work*, Cheltenham, UK and Northampton, US.: Edward Elgar.
- Atkin, Tim (2007), "The new Beaujolais," *Saveur*, February 7, [www.saveur.com/article/Wine-and-Drink/The-New-Beaujolais](http://www.saveur.com/article/Wine-and-Drink/The-New-Beaujolais) (accessed August 1, 2017).
- Bailey, Sharon (2015), "The US is the fourth largest tea market in the world," *Market Realist*, June 4, [www.marketrealist.com/2015/06/us-fourth-largest-tea-market-world/](http://www.marketrealist.com/2015/06/us-fourth-largest-tea-market-world/) (accessed August 14, 2017).
- Banfi (n.d.), "Emiliana," [www.banfiwines.com/winery/emiliana/](http://www.banfiwines.com/winery/emiliana/) (accessed August 2, 2017).
- Beverage Trade Network (n.d.), "Let's talk about organic wines and its demand," [www.beveragetradenetwork.com/en/Organic-Wines-229.htm](http://www.beveragetradenetwork.com/en/Organic-Wines-229.htm) (accessed August 2, 2017).
- Bioagricert (n.d.), "AB France," [www.bioagricert.org/en/certification/organic-production/ab-france.html](http://www.bioagricert.org/en/certification/organic-production/ab-france.html) (accessed August 2, 2017).
- Blythman, Joanna (2007), "The hottest cuppa in the world," *The Guardian*, April 28, [www.theguardian.com/lifeandstyle/2007/apr/29/foodanddrink4](http://www.theguardian.com/lifeandstyle/2007/apr/29/foodanddrink4) (accessed July 24, 2017).
- Bolton, Dan, (2015), "Insight: Organic tea imports," *World Tea News*, July 20, [www.worldteanews.com/insights/industry-insight/insight-organic-tea-imports](http://www.worldteanews.com/insights/industry-insight/insight-organic-tea-imports) (accessed August 2, 2017).

- Boone, Louis E. and David L. Kurtz (2011), *Contemporary business*, Malden: John Wiley & Sons.
- Brandl, Thomas (n.d.), “Organic wine boom continues,” *Prowein Magazine*,  
[www.prowein.com/cgi-bin/md\\_prowein/lib/pub/tt.cgi/Organic\\_wine\\_boom\\_continues.html?oid=29664&lang=2&ticket=g\\_u\\_e\\_s\\_t](http://www.prowein.com/cgi-bin/md_prowein/lib/pub/tt.cgi/Organic_wine_boom_continues.html?oid=29664&lang=2&ticket=g_u_e_s_t) (accessed August 2, 2017).
- Brodth, Sonja, Karen Klonsky, and L. Ann Thrupp (2009), “Market potential for organic crops in California: Almonds, hay, and winegrapes,” Giannini Foundation Information Series Report 09-1, [s.giannini.ucop.edu/uploads/giannini\\_public/ff/12/ff12d172-0808-4a70-866a-21012c227695/091\\_organic.pdf](http://s.giannini.ucop.edu/uploads/giannini_public/ff/12/ff12d172-0808-4a70-866a-21012c227695/091_organic.pdf) (accessed August 14, 2017).
- Cadiou, Pierre and André Lefebvre, Yves Le Pape, François Mathieu-Gaudrot, Stéphane Oriol (1975), *L’agriculture biologique en France, écologie ou mythologie*, Fontaine: Presses universitaires de Grenoble.
- California Certified Organic Farmers (n.d.), “Gallo Vineyards, Inc.,”  
[www.ccof.org/members/gallo-vineyards-inc-4](http://www.ccof.org/members/gallo-vineyards-inc-4) (accessed August 2, 2017).
- California Certified Organic Farmers (n.d.), “Our history,” [www.ccof.org/ccof/history](http://www.ccof.org/ccof/history) (accessed August 2, 2017).
- California Sustainable Winegrowing Alliance (n.d.), “E. & J. Gallo Winery,”  
[www.sustainablewinegrowing.org/certifiedparticipant/8/EJ\\_Gallo\\_Winery.html](http://www.sustainablewinegrowing.org/certifiedparticipant/8/EJ_Gallo_Winery.html)  
(accessed June 23, 2017).
- Campbell, William (2002), “Sommeliers ride high on Japan’s wine wave,” *Japan Times*, October 20, [www.japantimes.co.jp/community/2002/10/20/general/sommeliers-ride-high-on-japans-wine-wave/#.WVvKU8bMwdU](http://www.japantimes.co.jp/community/2002/10/20/general/sommeliers-ride-high-on-japans-wine-wave/#.WVvKU8bMwdU) (accessed July 28, 2017).

- CBI Ministry of Foreign Affairs (2013), "CBI product factsheet: Organic wine in Europe," [www.cbi.eu/sites/default/files/market\\_information/researches/product-factsheet-organic-wine-europe-wine-2013.pdf](http://www.cbi.eu/sites/default/files/market_information/researches/product-factsheet-organic-wine-europe-wine-2013.pdf) (accessed August 3, 2017).
- CBI Ministry of Foreign Affairs (2016), "CBI trends: Wine in Denmark," [www.cbi.eu/sites/default/files/market\\_information/researches/trends-denmark-wine-2016.pdf](http://www.cbi.eu/sites/default/files/market_information/researches/trends-denmark-wine-2016.pdf) (accessed September 13, 2017).
- Celestial Seasonings (2014), "Celestial Seasonings introduces new line of organic, Fair Trade certified estate tea," Press release, [www.celestialseasonings.com/press-releases/715](http://www.celestialseasonings.com/press-releases/715) (accessed August 2, 2017).
- Cleveland Clinic (n.d.), "Sulfite sensitivity," [www.my.clevelandclinic.org/health/articles/sulfite-sensitivity](http://www.my.clevelandclinic.org/health/articles/sulfite-sensitivity) (accessed August 14, 2017).
- Coates, Clive (1997), *Côte d'Or: A celebration of the great wines of Burgundy*, Berkeley: University of California Press.
- Cohen, Paul (2013), "The artifice of natural wine: Jules Chauvet and the reinvention of vinification in postwar France," in Rachel E. Black and Robert C. Ulin (eds), *Wine and Culture: Vineyard to Glass*, New York: Bloomsbury Academic, 261-78.
- Delmas, Magali A. and Laura E. Grant (2014), "Eco-labeling strategies and price-premium," *Business & Society*, **53** (1), 6-44.
- Delmas, Magali A. and Neil Lessem (2017), "Eco-premium or eco-penalty? Eco-labels and quality in the organic wine market," *Business & Society*, **56** (2), 318-56.
- Demeter International e.V. (2008), "Standards for Demeter/biodynamic wine," [www.organicstandard.com.ua/files/standards/en/demeter/st\\_wine\\_e08.pdf](http://www.organicstandard.com.ua/files/standards/en/demeter/st_wine_e08.pdf) (accessed August 2, 2017).

- Demeter-USA (2017), “Demeter Association Inc. biodynamic processing standard,” [www.demeter-usa.org/downloads/Demeter-Processing-Standards.pdf](http://www.demeter-usa.org/downloads/Demeter-Processing-Standards.pdf) (accessed August 2, 2017).
- Demeter-USA (n.d.), “Directors,” [www.demeter-usa.org/about-demeter/directors.asp](http://www.demeter-usa.org/about-demeter/directors.asp) (accessed July 14, 2017).
- Demeter-USA (n.d.), “History,” [www.demeter-usa.org/about-demeter/demeter-history.asp](http://www.demeter-usa.org/about-demeter/demeter-history.asp) (accessed August 2, 2017).
- Deutscher Teeverband (n.d.), “Tea production worldwide from 2006 to 2016, by country (in metric tons),” Statista – The Statistics Portal (accessed August 14, 2017).
- DiMaggio, P.J. and W.W. Powell (1983), “The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields,” *American Sociological Review*, 48, 147-80.
- Döring, Johannah and Matthias Frisch, Susanne Tittmann, Manfred Stoll, and Randolph Kauer (2015), “Growth, yield and fruit quality of grapevines under organic and biodynamic management,” *PLoS ONE*, **10** (10).
- Duren, James (2015), “Spain dominates bio wine industry,” [www.snooth.com/articles/spain-dominates-bio-wine-industry/?viewall=1](http://www.snooth.com/articles/spain-dominates-bio-wine-industry/?viewall=1) (accessed August 31, 2017).
- ECOVIN (n.d.), “Idea,” [www.ecovin.de/wissen](http://www.ecovin.de/wissen) (accessed August 11, 2017).
- ECOVIN (n.d.), “Why ECOVIN?” [www.ecovin.de/wissen/mitglied-werden](http://www.ecovin.de/wissen/mitglied-werden) (accessed August 2, 2017).
- Estreicher, Stefan K. (2013), “A brief history of wine in Spain,” *European Review*, **21** (2), 209-239.

- Ettinger, Jill (2012), "Whole Foods Market to carry first sulfite-free wines from Italy and Spain," *Organic Authority*, January 13, [www.organicauthority.com/blog/organic/whole-foods-market-to-carry-first-sulfite-free-wines-from-italy-and-spain/](http://www.organicauthority.com/blog/organic/whole-foods-market-to-carry-first-sulfite-free-wines-from-italy-and-spain/) (accessed July 31, 2017).
- Euromonitor International (2017), "Viña Concha y Toro SA in wine (world)," [www.portal.euromonitor.com](http://www.portal.euromonitor.com) (accessed September 24, 2017).
- Euromonitor International (2017), "Wine in Sweden," [www.euromonitor.com/wine-in-sweden/report](http://www.euromonitor.com/wine-in-sweden/report) (accessed August 2, 2017).
- European Commission (2008), "Commission regulation (EC) no 889/2008," <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32008R0889&from=EN> (accessed August 20, 2017).
- European Commission (2012), "New EU rules for 'organic wine' agreed," Press release, February 8, [www.europa.eu/rapid/press-release\\_IP-12-113\\_en.htm](http://www.europa.eu/rapid/press-release_IP-12-113_en.htm) (accessed August 2, 2017).
- Feiring, Alice (2010), "Dear Marcel (to whom all roads lead)," [www.alicefeiring.com/blog/2010/10/dear-marcel.html](http://www.alicefeiring.com/blog/2010/10/dear-marcel.html) (accessed July 20, 2017).
- Feiring, Alice (2011), *Naked wine: Letting grapes do what comes naturally*, Boston: De Capo Press.
- Finch, Graham (2016), "Allergens labeling for wine," *Food Standards Agency*, April, [www.food.gov.uk/sites/default/files/multimedia/pdfs/enforcement/wineallergenlabeloct13.pdf](http://www.food.gov.uk/sites/default/files/multimedia/pdfs/enforcement/wineallergenlabeloct13.pdf) (accessed June 4, 2016).
- Fisher, Lawrence M. (1991), "Organic wines enter the mainstream," *The New York Times*, November 19, [www.nytimes.com/1991/11/19/business/organic-wines-enter-the-mainstream.html?pagewanted=all](http://www.nytimes.com/1991/11/19/business/organic-wines-enter-the-mainstream.html?pagewanted=all) (accessed July 14, 2017).

- Franson, Paul (2006), "Consolidation in changing the business of wine," *Napa Valley Register*, November 2, [www.napavalleyregister.com/business/consolidation-is-changing-the-business-of-wine/article\\_8cbf2ddf-56c8-52ef-97bf-a77ff69b0eb4.html](http://www.napavalleyregister.com/business/consolidation-is-changing-the-business-of-wine/article_8cbf2ddf-56c8-52ef-97bf-a77ff69b0eb4.html) (accessed August 4, 2017).
- Frey Vineyards (2011), "The NOSB voted: No added sulfites in organic wines," [www.freywine.com/?method=blog.blogDrilldown&blogEntryID=72CDBE33-0EA3-8A6B-BB53-F7E537C4F8B5&originalMarketingURL=blog/The-NOSB-voted--no-added-sulfites-in-Organic-Wines](http://www.freywine.com/?method=blog.blogDrilldown&blogEntryID=72CDBE33-0EA3-8A6B-BB53-F7E537C4F8B5&originalMarketingURL=blog/The-NOSB-voted--no-added-sulfites-in-Organic-Wines) (accessed July 21, 2017).
- Frey, Katrina (2011), "Katrina Frey talks about sulfites and the battle to keep them out of organic wine on the Organic Conversation Radio Show," [www.freywine.com/blog/Katrina-Frey-talks-about-sulfites-and-the-battle-to-keep-them-out-of-organic-wine-on-the-Organic-Conversation-Radio-Show](http://www.freywine.com/blog/Katrina-Frey-talks-about-sulfites-and-the-battle-to-keep-them-out-of-organic-wine-on-the-Organic-Conversation-Radio-Show) (accessed August 2, 2017).
- Geisseler, Daniel and William R. Horwath (2016), "Grapevine production in California," California Department of Food and Agriculture, [apps1.cdfa.ca.gov/FertilizerResearch/docs/grapevine\\_Production\\_CA.pdf](http://apps1.cdfa.ca.gov/FertilizerResearch/docs/grapevine_Production_CA.pdf) (accessed August 2, 2017).
- Goggi, Peter F. (2017), "The state of the US tea industry," *Tea Association of the U.S.A. Inc.*, [www.teausa.com/14654/state-of-the-industry](http://www.teausa.com/14654/state-of-the-industry) (accessed July 31, 2017).
- Gompers, Paul G. (2001), "Honest Tea," *Harvard Business School Case 201-076* (revised October 2001).
- Haskell, Rob (2016), "Why wild, chemical-free, 'natural' wines are taking the industry by storm," *Vogue*, April 21, [www.vogue.com/article/natural-wine-industry-chemical-free](http://www.vogue.com/article/natural-wine-industry-chemical-free) (accessed August 2, 2017).

Honest Tea (n.d.), "Honest timeline," [www.honesttea.com/about-us/timeline/](http://www.honesttea.com/about-us/timeline/) (accessed August 4, 2017).

IFOAM EU Group (2013), "EU rules for organic wine production: Background, evaluation, and further sector development," [www.itr.si/uploads/LW/AJ/LWAJRgGe\\_kylvigPDidvmg/ifoameu\\_reg\\_wine\\_dossier\\_201307.pdf](http://www.itr.si/uploads/LW/AJ/LWAJRgGe_kylvigPDidvmg/ifoameu_reg_wine_dossier_201307.pdf) (accessed August 14, 2017).

Jackson, Evelyn (n.d.), "History of English wine," [www.greatenglishwines.co.uk/history-of-english-wine](http://www.greatenglishwines.co.uk/history-of-english-wine) (accessed June 10, 2017).

Jones, Geoffrey (2017), *Profits and Sustainability: A History of Green Entrepreneurship*, Oxford: Oxford University Press.

Jones, Geoffrey and Simon Mowatt (2016), "National Image as a Competitive Disadvantage: The Case of the New Zealand Organic Food Industry," *Business History*, **58** (4), 1262-88.

Karlsson, Britt and Per Karlsson (2016), *Biodynamic, organic, and natural winemaking*, Stockholm: Floris Books.

Kermit Lynch Wine Merchant (n.d.), "About Kermit," [www.kermitlynch.com/about-kermit/](http://www.kermitlynch.com/about-kermit/) (accessed July 12, 2017).

Kermit Lynch Wine Merchant (n.d.), "Marcel Lapierre," [www.kermitlynch.com/our-wines/marcel-lapierre/](http://www.kermitlynch.com/our-wines/marcel-lapierre/) (accessed August 12, 2017).

Khair, Mukti (2014), "Fashioning an industry: Socio-cognitive processes in the construction of worth of a new industry," *Organization Studies*, **35** (1), 41-74.

Koehler, Jeff (2015), *Darjeeling: The colorful history and precarious fate of the world's greatest tea*, New York: Bloomsbury.

- Kurian, A. and K. V. Peter (2007), *Commercial crops technology*, Delhi: New India Publishing Agency.
- L'Association des Vins Naturels (n.d.), "The commitment of the winemaker for an AVN wine," [www.lesvinsnaturels.org/category/L-association/Engagement](http://www.lesvinsnaturels.org/category/L-association/Engagement) (accessed August 14, 2017).
- Legeron, Isabelle (2014), *Natural wine: An introduction to organic and biodynamic wines made naturally*, London: CICO Books.
- Lester, Mitchell R. (1995), "Sulfite sensitivity: Significance in human health," *Journal of the American College of Nutrition*, **14** (3), 229-232.
- Lin, Zhi (2010), "Development, production, and trade of organic tea (China part)," Food and Agriculture Organization of the United Nations, [www.fao.org/fileadmin/templates/est/COMM\\_MARKETS\\_MONITORING/Tea/Documents/China\\_CFC\\_project\\_for\\_FAO\\_19th\\_session\\_May13\\_2010\\_.pdf](http://www.fao.org/fileadmin/templates/est/COMM_MARKETS_MONITORING/Tea/Documents/China_CFC_project_for_FAO_19th_session_May13_2010_.pdf) (accessed September 16, 2017).
- Lynch, Kermit (1988), *Adventures on the wine route: A wine buyer's tour of France*, New York: North Point Press.
- Merrett, David and Greg Whitwell (1994), "The empire strikes back: Marketing Australian beer and wine in the United Kingdom," in Geoffrey Jones and Nicholas J. Morgan (eds.), *Adding Value: Brands and Marketing in Food and Drink*, London: Routledge, pp. 162-88.
- Micheloni, Cristina (2009), "ORWINE: Publishable final activity report," [cordis.europa.eu/docs/publications/1238/123869711-6\\_en.pdf](http://cordis.europa.eu/docs/publications/1238/123869711-6_en.pdf) (accessed August 2, 2017).



- Millésime Bio (2017), “Overview: An increase in visitors and in international presence,”  
[www.millesime-bio.com/files/download/644](http://www.millesime-bio.com/files/download/644) (accessed August 31, 2017).
- Millésime Bio (2017), “Press kit,” [www.millesime-bio.com/en/press/press-kits](http://www.millesime-bio.com/en/press/press-kits) (accessed August 31, 2017).
- Molineaux, Sam (2017), “Report predicts growth in market for organic tea,” *World Tea News*,  
January 24, [www.worldteanews.com/news/report-predicts-growth-in-market-for-organic-tea](http://www.worldteanews.com/news/report-predicts-growth-in-market-for-organic-tea) (accessed August 4, 2017).
- Napjus, Alison (2010), “Beaujolais loses top winemaker Marcel Lapierre at 60,” *Wine Spectator*,  
October 13, [www.winespectator.com/webfeature/show/id/43806](http://www.winespectator.com/webfeature/show/id/43806) (accessed July 21, 2017).
- National Organic Standards Board (2011), “Petition to amend annotation for sulfur dioxide on 205.605,”  
[www.ams.usda.gov/sites/default/files/media/Sulfur%20dioxide%20recommendation%202011.pdf](http://www.ams.usda.gov/sites/default/files/media/Sulfur%20dioxide%20recommendation%202011.pdf) (accessed August 2, 2017).
- Naughtin, Paddy (2015), “Organics is about working smarter, Baileys of Glenrowan says,” *The Weekly Times*,  
July 14, [www.weeklytimesnow.com.au/agribusiness/wine/organics-is-about-working-smarter-baileys-of-glenrowan-says/news-story/d84dee1238d4b6f33ce3bfbde762cbcd](http://www.weeklytimesnow.com.au/agribusiness/wine/organics-is-about-working-smarter-baileys-of-glenrowan-says/news-story/d84dee1238d4b6f33ce3bfbde762cbcd) (accessed August 2, 2017).
- Nigro, Dana (2012), “U.S. and Europe have different definitions of organic wine,” *Wine Spectator*,  
February 24, [www.winespectator.com/webfeature/show/id/46432](http://www.winespectator.com/webfeature/show/id/46432) (accessed August 2, 2017).
- OECD (2005), “Environmental requirements and market access,” Paris: OECD Publishing.

- Ökokiste (n.d.), “Winery Sander, Demeter, Rhineland-Palatinate,”  
[www.oekokiste.de/lieferanten/lieferant/125.html](http://www.oekokiste.de/lieferanten/lieferant/125.html) (accessed July 18, 2017).
- Organic Trade Association (n.d.), “EU-US equivalency agreement,”  
[www.ota.com/resources/global-market-opportunities/trade-access-barriers/trade-agreements/eu-us-equivalency](http://www.ota.com/resources/global-market-opportunities/trade-access-barriers/trade-agreements/eu-us-equivalency) (accessed July 31, 2017).
- Organic Winegrowers NZ (2015), “Final results of the organic focus vineyard project,”  
[www.organicfocusvineyard.com/2015/06/22/final-results/](http://www.organicfocusvineyard.com/2015/06/22/final-results/) (accessed July 12, 2017).
- Padel, Susanne and Nicolas Lampkin (2007), “The development of governmental support for organic farming in Europe,” in William Lockeretz (ed), *Organic farming: An international history*, Oxfordshire: CABI.
- Park, Juan (2015), “Nudging consumers to do good, Swedish style,” *Wine Intelligence*, April 8,  
[www.wineintelligence.com/nudging-consumers-to-do-good-swedish-style/](http://www.wineintelligence.com/nudging-consumers-to-do-good-swedish-style/) (accessed August 15, 2017).
- Pekic, Branislav (2016), “Italian organic wine exports grow by 38%,” *European Supermarket Magazine*, August 17, [www.esmmagazine.com/italian-organic-wine-exports-grow-38/31058](http://www.esmmagazine.com/italian-organic-wine-exports-grow-38/31058) (accessed August 14, 2017).
- Pink, Małgorzata (2015), “The sustainable wine market in Europe— Introduction to a market trend and its issues,” *Oeconomia*, **14** (2), 131–142.
- Pons, Diego Fernandez (2011, November), “Naturally organic: Spain’s historic La Mancha D.O. gets down to earth,” *The Tasting Panel*, [digital.copcomm.com/i/46939-november-2011/54](http://digital.copcomm.com/i/46939-november-2011/54) (accessed July 12, 2017), 54.
- Quackenbush, Jeff (2011), “Spotlight on leaders at independent wine companies,” *North Bay Business Journal*, June 27,

- [www.northbaybusinessjournal.com/csp/mediapool/sites/NBBJ/IndustryNews/story.csp?cid=4179872&sid=778&fid=181](http://www.northbaybusinessjournal.com/csp/mediapool/sites/NBBJ/IndustryNews/story.csp?cid=4179872&sid=778&fid=181) (accessed August 20, 2017).
- Quartz (n.d.), “Annual per capita tea consumption worldwide as of 2016, by leading countries (in pounds),” Statista – The Statistics Portal (accessed August 14, 2017).
- Reeder, Jessica (2012), “The world’s largest organic & biodynamic vineyard: Chile’s Emiliana Vineyards,” *Organic Authority*, June 12, [www.organicauthority.com/juicy-spirits/eco-winery-emiliana-vineyards-chile.html](http://www.organicauthority.com/juicy-spirits/eco-winery-emiliana-vineyards-chile.html) (accessed August 14, 2017).
- Rivière-Wekstein, Gil (2012), *Bio fausses promesses et vrai marketing*, Paris: Le Publieur.
- Roberto, Michael A. (2011), “The changing structure of the global wine industry,” *International Business & Economics Research Journal (IBER)*, **2** (9).
- Rossetto, Luca (2002), “Marketing strategies for organic wine growers in the Veneto region,” 8th Joint Conference on Food, Agriculture and the Environment, [ageconsearch.umn.edu/bitstream/14363/1/wp02-04.pdf](http://ageconsearch.umn.edu/bitstream/14363/1/wp02-04.pdf) (accessed July 18, 2017).
- Santos, F.M. and Eisenhardt, K.M (2009) “Constructing markets and shaping boundaries: Entrepreneurial agency in nascent fields,” *Academy of Management Journal*, 49, 643-671.
- Sedlescombe (n.d.), “Sedlescombe: Vineyard tours & wine tasting,” [www.englishorganicwine.co.uk/](http://www.englishorganicwine.co.uk/) (accessed August 2, 2017).
- Simpson, James (2011) *Creating wine: The emergence of a world industry, 1840-1914*, Princeton: Princeton University Press.
- Smith, Adrienne (n.d.), “Spanish wines go organic,” *Food & Wines from Spain*, [www.foodswinesfromspain.com/spanishfoodwine/global/products-](http://www.foodswinesfromspain.com/spanishfoodwine/global/products-)

- recipes/products/more-about-products/spanish-wines-go-organic.html# (accessed August 2, 2017).
- Smith, Oliver (2017), "Revealed: The countries that quaff the most wine per capita," *The Telegraph*, February 17 2017, <http://www.telegraph.co.uk/travel/maps-and-graphics/wine-consumption-per-capita-by-country>.
- Smithers, Rebecca (2017), "Grape Britain: UK merry on organic wine as sales soar," *The Guardian*, April 3, [www.theguardian.com/environment/2017/apr/03/grape-britain-uk-merry-on-organic-wine-as-sales-hit-nearly-6m](http://www.theguardian.com/environment/2017/apr/03/grape-britain-uk-merry-on-organic-wine-as-sales-hit-nearly-6m) (accessed July 28, 2017).
- Strayer, Pam (2015), "Why is Whole Foods so lame about organically grown wine?" [winecountrygeographic.blogspot.com/2015/07/why-is-whole-foods-so-lame-about.html](http://winecountrygeographic.blogspot.com/2015/07/why-is-whole-foods-so-lame-about.html) (accessed July 31, 2017).
- Strayer, Pam (2017), "The organic opportunity: Will the U.S. wine industry miss out?" *Wines & Vines*, January, [www.winesandvines.com/columns/section/26/article/178258/The-Organic-Opportunity-Will-the-US-Wine-Industry-Miss-Out](http://www.winesandvines.com/columns/section/26/article/178258/The-Organic-Opportunity-Will-the-US-Wine-Industry-Miss-Out) (accessed August 17, 2017).
- Sustainable Agriculture Research and Education (n.d.), "History of organic farming in the US," [www.sare.org/Learning-Center/Bulletins/Transitioning-to-Organic-Production/Text-Version/History-of-Organic-Farming-in-the-United-States](http://www.sare.org/Learning-Center/Bulletins/Transitioning-to-Organic-Production/Text-Version/History-of-Organic-Farming-in-the-United-States) (accessed August 2, 2017).
- Swindell, Bill (2015), "Benziger family winery sold to Wine Group," *The Press Democrat*, June 8, [www.pressdemocrat.com/business/4042207-181/benziger-family-winery-sold-to](http://www.pressdemocrat.com/business/4042207-181/benziger-family-winery-sold-to) (accessed August 2, 2017).
- Systembolaget (2015), "2016 launch plan," [www.systembolaget.se/imagelibrary/publishedmedia/zi1hli7jhiaxxylfzb7d/Launch\\_plan\\_2016.pdf](http://www.systembolaget.se/imagelibrary/publishedmedia/zi1hli7jhiaxxylfzb7d/Launch_plan_2016.pdf) (accessed August 3, 2017).

Systembolaget (2016), “2017 launch plan,”

[www.systembolaget.se/imagelibrary/publishedmedia/77fj20gd52sp7wdvqinb/Launch\\_Plan\\_2017.pdf](http://www.systembolaget.se/imagelibrary/publishedmedia/77fj20gd52sp7wdvqinb/Launch_Plan_2017.pdf) (accessed August 19, 2017).

Tata Global Beverages Newsroom (2014), “Tata Global Beverages and Hindustan Unilever progress sustainable initiatives for tea industry,” Press release,

[www.tataglobalbeverages.com/media/news/detailed-news/2015/02/24/tata-global-beverages-and-hindustan-unilever-progress-sustainable-initiatives-for-tea-industry](http://www.tataglobalbeverages.com/media/news/detailed-news/2015/02/24/tata-global-beverages-and-hindustan-unilever-progress-sustainable-initiatives-for-tea-industry) (accessed August 4, 2017).

The Weekly Times (2010), “Organic portfolio expands at Baileys of Glenrowan,” May 10,

[www.weeklytimesnow.com.au/agribusiness/wine/organic-portfolio-expands-at-baileys-of-glenrowan/news-story/3708dcb4f8af6021f08474ddcba102c3](http://www.weeklytimesnow.com.au/agribusiness/wine/organic-portfolio-expands-at-baileys-of-glenrowan/news-story/3708dcb4f8af6021f08474ddcba102c3) (accessed August 2, 2017).

This is Chile (2011), “Concha y Toro buys largest organic and sustainable vineyards in the US,”

March 3, [www.thisischile.cl/concha-y-toro-buys-largest-organic-and-sustainable-vineyards-in-the-us/?lang=en](http://www.thisischile.cl/concha-y-toro-buys-largest-organic-and-sustainable-vineyards-in-the-us/?lang=en) (accessed August 2, 2017).

Toussaint-Samat, Maguelonne (1992), *A history of food*, Chichester: Wiley-Blackwell.

Unilever (2017), “Unilever acquires Pukka Herbs,” [www.unilever.com/news/Press-](http://www.unilever.com/news/Press-releases/2017/unilever-acquires-pukka-herbs.html)

[releases/2017/unilever-acquires-pukka-herbs.html](http://www.unilever.com/news/Press-releases/2017/unilever-acquires-pukka-herbs.html) (accessed September 13, 2017).

United States Department of Agriculture (2011), “Meeting of The National Organic Standards

Board (NOSB),” [www.ams.usda.gov/sites/default/files/media/transcript1ga.pdf](http://www.ams.usda.gov/sites/default/files/media/transcript1ga.pdf) (accessed July 30, 2017).

- United States Department of Agriculture (n.d.), “Organic wine: Oversight, labeling + trade,” [www.ams.usda.gov/sites/default/files/media/Organic%20Wine%20-%20Oversight-Labeling-Trade.pdf](http://www.ams.usda.gov/sites/default/files/media/Organic%20Wine%20-%20Oversight-Labeling-Trade.pdf) (accessed August 2, 2017).
- Unsworth, John (2010), “History of pesticide use,” *International Union of Pure and Applied Chemistry*, [www.agrochemicals.iupac.org/index.php?option=com\\_sobi2&sobi2Task=sobi2Details&catid=3&sobi2Id=31](http://www.agrochemicals.iupac.org/index.php?option=com_sobi2&sobi2Task=sobi2Details&catid=3&sobi2Id=31) (accessed August 1, 2017).
- Vidal, John (2017), “Move by UK supermarkets threatens to bring Fairtrade crashing down,” *The Guardian*, [www.theguardian.com/global-development/2017/jun/24/fairtrade-crashing-down-sainsburys-tesco-tea-growers-nairobi](http://www.theguardian.com/global-development/2017/jun/24/fairtrade-crashing-down-sainsburys-tesco-tea-growers-nairobi) (accessed September 13, 2017).
- Viña Concha y Toro (n.d.), “History,” [www.conchaytoro.com/concha-y-toro-holding/quienes-somos-cat/history/](http://www.conchaytoro.com/concha-y-toro-holding/quienes-somos-cat/history/) (accessed August 2, 2017)
- Viña Concha y Toro (n.d.), “Sustainability,” [www.conchaytoro.com/concha-y-toro-holding/sustainability/](http://www.conchaytoro.com/concha-y-toro-holding/sustainability/) (accessed August 4, 2017).
- Viña Concha y Toro S.A. (2012), “Form 20-F: Annual report,” United States Securities and Exchange Commission, [www.conchaytoro.com/wp-content/uploads/2014/07/2011.pdf](http://www.conchaytoro.com/wp-content/uploads/2014/07/2011.pdf) (accessed August 14, 2017).
- VisitDenmark (n.d.), “Noma – Four-time world’s best restaurant!” [www.visitdenmark.com/copenhagen/places-eat/noma-four-time-worlds-best-restaurant](http://www.visitdenmark.com/copenhagen/places-eat/noma-four-time-worlds-best-restaurant) (accessed August 2, 2017).
- Waldin, Monty (n.d.), “Sedlescombe,” [www.drinkbritain.com/visits/sedlescombe](http://www.drinkbritain.com/visits/sedlescombe) (accessed August 2, 2017).

- Walker, Andrea K. (2008), "Drink maker finds Coke its cup of tea," *The Baltimore Sun*, April 16,  
[web.archive.org/web/20110522195656/http://www.baltimoresun.com/features/green/sns-honest-tea-coke-green%2C0%2C4779978.story](http://web.archive.org/web/20110522195656/http://www.baltimoresun.com/features/green/sns-honest-tea-coke-green%2C0%2C4779978.story) (accessed August 2, 2017).
- Wheeler, Sarah (2011), "Review of organic farming policy in Australia: Time to wipe the slate clean?" *Journal of Sustainable Agriculture*, **35** (8), 885-913.
- Willer, Helga (2008), "Organic viticulture in Europe: Development and current statistics," 16th IFOAM Organic World Congress, [www.orgprints.org/10909/2/willer-2008-viticulture%5D.doc](http://www.orgprints.org/10909/2/willer-2008-viticulture%5D.doc) (accessed August 11, 2017).
- Willer, Helga and Julia Lernoud (eds) (2017), *The world of organic agriculture: Statistics & emerging trends 2017*, Frick and Bonn: FiBL & IFOAM – Organics International, [shop.fibl.org/CHen/mwdownloads/download/link/id/785/?ref=1](http://shop.fibl.org/CHen/mwdownloads/download/link/id/785/?ref=1) (accessed August 2, 2017).
- Willer, Helga and Minou Youssefi (2006), *The world of organic agriculture. Statistics and emerging trends 2006*, Frick and Bonn: Research Institute of Organic Agriculture FiBL & IFOAM – Organics International.
- Wine Guide (n.d.), "About Weingut Sander," [wineguide.wein-plus.eu/weingut-sander/about](http://wineguide.wein-plus.eu/weingut-sander/about) (accessed July 11, 2017).
- Winemonitor (2013), "Press release,"  
[www.winemonitor.it/images/PDF/Comunicati%20stampa/CS%20Wine%20Monitor%20Nomisma%20organic%20EN.pdf](http://www.winemonitor.it/images/PDF/Comunicati%20stampa/CS%20Wine%20Monitor%20Nomisma%20organic%20EN.pdf) (accessed August 4, 2017).

Wong, Kristine (2015), “Are small farms in India the key to taking tea organic?,” *The Guardian*, February 5, [www.theguardian.com/sustainable-business/2015/feb/05/tea-farm-india-sustainable-organic](http://www.theguardian.com/sustainable-business/2015/feb/05/tea-farm-india-sustainable-organic) (accessed July 31, 2017).

Woolf, Simon (2016), “How big is the market for natural wines?,” *Meininger’s Wine Business Journal*, September 15, [www.meininger.de/en/wine-business-international/how-big-market-natural-wines](http://www.meininger.de/en/wine-business-international/how-big-market-natural-wines) (accessed August 2, 2017).

Ziobro, Paul (2011), “Coke buys rest of Honest Tea,” *The Wall Street Journal*, March 1, [www.wsj.com/articles/SB10001424052748704506004576174282892481392](http://www.wsj.com/articles/SB10001424052748704506004576174282892481392) (accessed July 31, 2017).

## **Interviews**

Adam Morganstern (Editor of the *Organic Wine Journal*), interview conducted via telephone 24 August, 2017.

Andy Howard (Master of Wine), interview conducted 8 June, 2017, London, Britain.

Erich Hartl (Founder of Biowein[pur] Hartl), interview conducted via email 27 January, 2011.

Jonathan Frey (Co-Founder of Frey Vineyards), interview conducted via email 19 June, 2017.

Lee Holdstock (Trade Relations Manager at the Soil Association), interview conducted via telephone 14 June, 2017.

Mads Kleppe (Head Sommelier at Noma), interview conducted via telephone 24 July, 2017.

Neil Palmer (Co-Founder of Vintage Roots), interview conducted 8 June, 2017, in Reading, Britain.

Paul Dolan (President of Demeter-USA), interview conducted via email 22 June, 2017.



Pierre Frick (Winemaker, Domaine Frick), interview conducted 19 November, 2011, Pfaffenheim, France.

Roberto Stucchi Prinetti (Winemaker at Badia a Coltibuono), interview conducted via email 18 June, 2017.

Sanjay Bansal (Chairman of Ambootia Group), interview conducted 30 May, 2017, Boston, United States.

Tony Coturri (Winemaker at Coturri Winery), interview conducted via telephone 25 May, 2017.

Will Davenport (Winemaker at Davenport Vineyards), interview conducted via email 17 June, 2017.

Yasushi Tamura (CEO/President of Mavie Corporation), interview conducted 24 May, 2010, Tokyo, Japan.

---

## Endnotes

<sup>1</sup> DiMaggio and Powell, “Iron Cage;” Aldrich and Fiol, “Fools;” Santos and Eisenhardt, “Constructing;” Khaire, “Fashioning.”

<sup>2</sup> Simpson, *Creating*.

<sup>3</sup> Anderson, *The world's*, 3-10; Merrett and Whitwell, “Empire,” 173-185.

<sup>4</sup> Jones, *Profits*, 24.

<sup>5</sup> Unsworth, “History.”

<sup>6</sup> Legeron, *Natural*, 68-9.

<sup>7</sup> Feiring, “Naked,” 43-4.

<sup>8</sup> The “natural” term is a broadly-used term that remains unregulated in most major wine markets.

<sup>9</sup> Woolf, “How big.”

<sup>10</sup> Smith, “Revealed.”

<sup>11</sup> A number of countries, including the United States, make provisions for the use of synthetic fertilizers and pesticides under certain circumstances.

<sup>12</sup> Jones, *Profits*, 28-9, 58.

<sup>13</sup> Wine Guide, “About.”

<sup>14</sup> ‘Ökokiste, “Winery.” For Rudolf Steiner’s biodynamic movement, see Jones, *Profits*, 31-38. .

<sup>15</sup> Rivière-Wekstein, *Bio*; Cadiou et al., *L’agriculture*.: Jones, *Profits*, 99-100.

- 
- <sup>16</sup> Interview by Loubna Bouamane with Pierre Frick, Winemaker, November 19, 2011, Pfaffenheim (hereafter Pierre Frick Interview).
- <sup>17</sup> Pierre Frick Interview.
- <sup>18</sup> Cohen, “The artifice.”
- <sup>19</sup> Feiring, “Dear.”
- <sup>20</sup> Atkin, “The new.”
- <sup>21</sup> Chaptalization is a procedure whereby sugar is added to must if there is not a sufficient quantity of natural sugar in the grapes, sometimes due to the fact that they were not ripe enough when picked. Chaptalization increases the alcohol content of wine. See Toussaint-Samat, *A History*, 257.
- <sup>22</sup> Kermit Lynch Wine Merchant, “Marcel.”
- <sup>23</sup> Atkin, “The new.”
- <sup>24</sup> Fisher, “Organic.”
- <sup>25</sup> Organic Winegrowers NZ, “Final”; Wheeler, “Review,” 885-913; Döring et al., “Growth.”
- <sup>26</sup> Email Interview by Emily Grandjean with Roberto Stucchi Prinetti, Winemaker, Badia a Coltibuono, June 18, 2017.
- <sup>27</sup> Rossetto, “Marketing.”
- <sup>28</sup> Sedlescombe, “Sedlescombe.”
- <sup>29</sup> Jackson, “History”; Waldin, “Sedlescombe.”
- <sup>30</sup> Interview by Geoffrey Jones with Andy Howard, Master of Wine, June 8, 2017, in London, Britain (hereafter, Andy Howard interview). The Institute of Masters of wine was founded by London wine merchants in 1953. It now has about three hundred Masters, two-thirds of them British, who have to pass rigorous examinations on their wine knowledge.
- <sup>31</sup> Sedlescombe, “Sedlescombe.”
- <sup>32</sup> Estreicher, “A brief,” 209-239.
- <sup>33</sup> Pons, “Naturally.”
- <sup>34</sup> Albet i Noya, “Going organic.”
- <sup>35</sup> Smith, “Spanish.”
- <sup>36</sup> Duren, “Spain.”
- <sup>37</sup> Geisseler and Horwath, “Grapevine.”
- <sup>38</sup> Jones, *Profits*, 95-6.
- <sup>39</sup> Ibid, 328-29.
- <sup>40</sup> Telephone Interview by Emily Grandjean with Tony Coturri, Winemaker, Coturri Winery, May 25, 2017 (hereafter Tony Coturri interview).
- <sup>41</sup> Delmas, and Grant, “Eco-labeling,” 6-44.
- <sup>42</sup> Delmas and Lessem, “Eco-premium,” 318-56.
- <sup>43</sup> Boone and Kurtz, “Contemporary,” 456.
- <sup>44</sup> Coates, *Côte*, 122.
- <sup>45</sup> Interview by Loubna Bouamane with Jonathan Frey, Co-Founder, Frey Vineyards, October 11 2011, Redwood Valley, California, United States (hereafter, Jonathan Frey interview); Jones, *Profits*, 96.
- <sup>46</sup> Email Interview by Emily Grandjean with Jonathan Frey, Co-Founder, Frey Vineyards, June 19, 2017.
- <sup>47</sup> Jonathan Frey interview.
- <sup>48</sup> Quackenbush, “Spotlight”; Demeter, “Directors.”

- 
- <sup>49</sup> Roberto, “The changing.”
- <sup>50</sup> Franson, “Consolidation.”
- <sup>51</sup> Fisher, “Organic.”
- <sup>52</sup> Email from Allison Jordan, Vice President, Environmental Affairs, Wine Institute and Executive Director, California Sustainable Winegrowing Alliance, September 8 2017.
- <sup>53</sup> California Sustainable Winegrowing Alliance, “E. & J. Gallo Winery”; California Certified Organic Farming, “Gallo Vineyards, Inc.”
- <sup>54</sup> Euromonitor International, “Viña.”
- <sup>55</sup> Viña Concha y Toro, “History.”
- <sup>56</sup> Viña Concha y Toro, “Sustainability.”
- <sup>57</sup> Viña Concha y Toro S.A., “Form.”
- <sup>58</sup> This is Chile, “Concha.”
- <sup>59</sup> Reeder, “The world’s.”
- <sup>60</sup> Banfi, “Emiliana.”
- <sup>61</sup> Naughtin, “Organics”; The Weekly Times, “Organic.”
- <sup>62</sup> Swindell, “Benziger.”
- <sup>63</sup> Lynch, *Adventures*, 165.
- <sup>64</sup> *Ibid.*, 164.
- <sup>65</sup> Napjus, “Beaujolais.”
- <sup>66</sup> Kermit Lynch Wine Merchant, “About.”
- <sup>67</sup> Telephone Interview by Loubna Bouamane with Erich Hartl, Founder, Biowein[ur] Hartl, January 27, 2011.
- <sup>68</sup> CBI Ministry of Foreign Affairs, “CBI.”
- <sup>69</sup> Interview by Geoffrey Jones with Neil Palmer, Co-Founder, Vintage Roots, June 8, 2017, in Reading, Britain.
- <sup>70</sup> *Ibid.*
- <sup>71</sup> *Ibid.*
- <sup>72</sup> *Ibid.*
- <sup>73</sup> *Ibid.* All conversions into US dollars use exchange rate in respective year.
- <sup>74</sup> Email Interview by Emily Grandjean with Adam Morganstern, Editor, *Organic Wine Journal*, August 24 2017.
- <sup>75</sup> Jones, *Profits*, 189
- <sup>76</sup> Interview by Geoffrey Jones and Mayuka Yamazaki with Yasushi Tamura, CEO/President, Mavie Corporation, May 24 2010, in Tokyo, Japan (hereafter, Yasushi Tamura interview).
- <sup>77</sup> Yasushi Tamura interview.
- <sup>78</sup> *Ibid.*; Campbell, “Sommeliers.”
- <sup>79</sup> Jones and Mowatt, “National Image.”
- <sup>80</sup> Jones, *Profits*, 362; Strayer, “Why.”
- <sup>81</sup> Ettinger, “Whole.”
- <sup>82</sup> Smithers, “Grape.”
- <sup>83</sup> Andy Howard interview.
- <sup>84</sup> Demeter-USA, “History.”
- <sup>85</sup> Willer, “Organic.”
- <sup>86</sup> ECOVIN, “Idea.”
- <sup>87</sup> ECOVIN, “Why.”

- 
- <sup>88</sup> For the Soil Association, see Jones, *Profits*, 60. .
- <sup>89</sup> Telephone Interview by Geoffrey Jones and Emily Grandjean with Lee Holdstock, Trade Relations Manager, Soil Association, June 14 2017.
- <sup>90</sup> Padel and Lampkin, “The development,” 96; Bioagricert, “AB France.”
- <sup>91</sup> L’Association des Vins Naturels, “The commitment.”
- <sup>92</sup> California Certified Organic Farmers, “Our history.”
- <sup>93</sup> Sustainable Agriculture Research and Education, “History.”
- <sup>94</sup> United States Department of Agriculture, “Organic.”
- <sup>95</sup> Lester, “Sulfite,” 229-232; Cleveland Clinic, “Sulfite.”
- <sup>96</sup> Nigro, “U.S.”
- <sup>97</sup> Email Interview by Emily Grandjean with Paul Dolan, President, Demeter-USA, June 22, 2017, (hereafter, Paul Dolan interview).
- <sup>98</sup> Nigro, “U.S.”
- <sup>99</sup> United States Department of Agriculture, “Meeting.”
- <sup>100</sup> Frey, “Katrina.”
- <sup>101</sup> National Organic Standards Board, “Petition.”
- <sup>102</sup> Frey Vineyards, “The NOSB.”
- <sup>103</sup> Paul Dolan interview.
- <sup>104</sup> IFOAM EU Group, “EU Rules.”
- <sup>105</sup> Finch, “Allergens.”
- <sup>106</sup> Micheloni, “ORWINE.”
- <sup>107</sup> IFOAM EU Group, “EU Rules.”
- <sup>108</sup> Organic Trade Association, “EU-US.”
- <sup>109</sup> Pierre Frick interview.
- <sup>110</sup> Andy Howard interview.
- <sup>111</sup> Demeter-USA, “Demeter.”
- <sup>112</sup> Nigro, “U.S.”
- <sup>113</sup> Email Interview by Emily Grandjean with Will Davenport, Winemaker, Davenport Vineyards, June 17 2017.
- <sup>114</sup> Tony Coturri interview.
- <sup>115</sup> Alley, “New.”
- <sup>116</sup> Karlsson and Karlsson, “Biodynamic.”
- <sup>117</sup> Deutscher Teeverband, “Tea.”
- <sup>118</sup> Bailey, “The US”; Quartz, “Annual.”
- <sup>119</sup> Blythman, “The hottest.”
- <sup>120</sup> Koehler, *Darjeeling*, 145; Interview by Geoffrey Jones with Sanjay Bansal, Chairman of Ambootia Group, May 30 2017, in Boston, United States (hereafter, Sanjay Bansal interview).
- <sup>121</sup> Blythman, “The hottest.”
- <sup>122</sup> OECD, “*Environmental*.”
- <sup>123</sup> Kurian and Peter (2007), *Commercial*, 436.
- <sup>124</sup> Koehler, *Darjeeling*, 145; Sanjay Bansal interview.
- <sup>125</sup> Blythman, “The hottest.”
- <sup>126</sup> Honest Tea, “Honest timeline.”
- <sup>127</sup> Gompers, “Honest Tea.”
- <sup>128</sup> Walker, “Drink.”

- 
- 129 Ziobro, “Coke”
- 130 Honest Tea, “Honest Timeline”; Goggi, “The state.”
- 131 Bolton, “Insight.”
- 132 Kurian and Peter (2007), *Commercial*, 436; Lin, “Development,”
- 133 Celestial Seasonings, “Celestial.”
- 134 Wong, “Are small”; Tata Global Beverages Newsroom, “Tata.”
- 135 Molineaux, “Report.”
- 136 Unilever, “Unilever.”
- 137 Email from Kyla Smith, Certification Director, Pennsylvania Certified Organic, July 14 2017; European Commission (2008), “Commission.”
- 138 Vidal, “Move.”
- 139 Haskell, “Why Wild.”
- 140 Ibid.
- 141 Visit Denmark, “Noma.”
- 142 Telephone Interview by Emily Grandjean with Mads Kleppe, Head Sommelier, Noma, July 24 2017.
- 143 Ibid.
- 144 Ibid.
- 145 Karlsson and Karlsson, “Biodynamic.”
- 146 Strayer, “The organic.”
- 147 Smithers, “Grape.”
- 148 Pink, “The Sustainable.”
- 149 CBI, “CBI Trends”; Pink, “The Sustainable
- 150 Park, “Nudging.”
- 151 Euromonitor International, “Wine”; Systembolaget, “2016 Launch Plan.”
- 152 Euromonitor International, “Wine.”