

Version 4

Managing a Wine Cellar Using a Spreadsheet

By Gary Thompson

EXECUTIVE SUMMARY

Using examples from Version 4 of Wine Cellar Management Tool, this report describes the many spreadsheet-based analyses in this tool that can assist an individual, restaurant, or bar in managing a wine cellar. The primary motivation for developing Version 4 was to expand the capability of the tool to assist cellar owners in making decisions about how to manage a purposeful decrease in the size of their cellars. In addition to providing insight into the key questions of what to consume and what to promote, the tool shows such interesting and informative analyses as appellations, vintages, and types of wine. In the tool described in this report, the spreadsheet itself incorporates form-based sets of data entry fields. The Wine Cellar Management Tool Version 4, which is available at no charge from The Center for Hospitality Research at Cornell University, does not require actual knowledge of how to construct a spreadsheet. It does require diligent data entry regarding wine purchases and withdrawals.

Keywords

Restaurants, wine cellars, spreadsheets, wine cellar management

Disciplines

Business, Food and Beverage Management, Hospitality Administration and Management

ABOUT THE AUTHOR



Gary M. Thompson is a professor of operations management in the Cornell School of Hotel Administration, where he teaches graduate and undergraduate courses in service operations management. Prior to joining Cornell in 1995, he spent eight years on the faculty of the David Eccles School of Business at the University of Utah. He holds a BSc with first-class honours from the University of New Brunswick, an MBA from the University of Western Ontario, and a PhD in operations management from The Florida State University. His current research focuses on restaurant revenue management, food and beverage forecasting in lodging operations, workforce staffing and scheduling decisions, wine cellars, scheduling conferences, and course scheduling in post-secondary and corporate training environments. His research has appeared in the Cornell Hospitality Quarterly, Decision Sciences, the Journal of Operations Management, the Journal of Service Research, Management Science, Naval Research Logistics, Operations Research, and other journals. He has consulted for several prominent hospitality companies and is the founder and president of Thoughtimus® Inc., a small software development firm focusing on scheduling products. From July 2003 through June 2006 he served as executive director of the school's Center for Hospitality Research.

Version 4

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This report serves as a companion piece for the “Wine Cellar Management Tool, Version 4,” hereafter referred to as the “Tool.” Although the Tool is based on a spreadsheet, it requires only data entry in predefined forms within the spreadsheet. The spreadsheet calculations underlie the resulting analyses. In addition to the blank spreadsheet that you can use, I have posted a sample spreadsheet containing data. As you read this report, you may wish to consult that sample spreadsheet.

The original version of the Wine Cellar Management Tool was released by The Center for Hospitality Research in May 2009. Version 2 of the tool, which contained a number of enhancements, followed in August 2010. The related 2009 CHR Report “Managing a Wine Cellar Using a Spreadsheet 2.0” described how a spreadsheet can be used to help manage a wine cellar, either for individuals or for firms such as restaurants or bars. It showed that if one is disciplined about recording the inflows and outflows to and from the cellar, there are a large number of cellar analytics that are interesting and informative, and that can be used to help guide cellar management decisions, such as what to consume or what to promote. Versions 3 and 3.1 of the Tool, which added new functionality, were released in April 2016. The report associated with Versions 3 and 3.1 only provided information on features new to those versions. The current document is intended as a replacement for the earlier CHR reports, as a one-stop repository of information related to Version 4.

While commercial tools for managing a wine cellar are available, there are advantages to the Tool. First, it is free. Second, the cellar information is not stored on-line, which reduces the risk of cybertheft of personal information. Third, its functionality is such that it can make cellar management notably easier and more effective. In the words of one long-time user, “...I love the product and it revolutionizes the way I buy wine as I now purchase for a specific drinking window and in certain brackets.” The primary motivation for developing Version 4 was to assist cellar owners in making decisions about how to manage a purposeful decrease in the size of their cellars.

Having developed the Tool, I wrote the original report and this revised and expanded report to explain how the Tool allows individuals (or restaurants and bars) to manage their wine inventories. Throughout, I use the term “wine cellar” to mean wine inventory, even though wine inventories are not always held in cellars. I developed the Tool because I was surprised at the number of times I had read about people who claimed to “track” their wine cellars in their heads, even those whose cellars run into the thousands of bottles. Granting that these people may have excellent memories, I think it’s easy to mismanage a cellar using one’s head. The key result of mismanagement is failing to drink wines at their peak. Managing a wine inventory can be complex, since wines exhibit different aging profiles that reflect how the wine evolves over time. Some wines peak early and then decline fairly quickly, while others improve slowly

over time, have a long window of peak drinking, and then decline slowly.

This report and Tool complement an earlier CHR report, which Professor Steve Mutkoski and I wrote¹. That report described how one could take an optimization perspective to managing a wine cellar. The limitation of that report is that implementing the method that we described requires a sophisticated optimization model. By contrast, the Tool presented here is based on a spreadsheet model that can be used to help manage a wine cellar. The spreadsheet-based Tool allows you to input your wine-cellar information without worrying about the underlying spreadsheet rules and arguments. The simplicity of this approach can broaden its applicability, since users need not actually understand how to operate the spreadsheet. All they need do is input the requisite data, as I explain later in this report.

The Tool does not tell you what you must drink (or what to promote). However, once you have input the information regarding your cellar, the Tool can help guide your wine choices, so that you have an appropriate selection of wines in different categories and so that you don’t miss drinking wines at their peak. To be effective, the Tool requires a disciplined approach—recording purchases and consumption and, occasionally, verifying the accuracy of the inventory counts by taking a physical inventory. I believe this disciplined approach is well worth the time, so that no wine you own ages past its peak drinking period. Other benefits are a wide variety of interesting and informative analyses that reflect the wine held in your cellar. From my own use of the Tool over more than 10 years, I can attest to the minimal effort required to keep it updated².

In the remainder of this report I first present the many analyses related to a wine cellar that one can perform with the spreadsheet underlying the Tool. After that, I describe the required data. While the data must come before the analyses, I present them in reverse order, since it is the usefulness and extent of the analyses that will allow you to determine whether using this Tool is worth your while. Following the information on the required data, I present information on the main new feature of Version 4, which can assist cellar owners in making decisions about how to man-

¹ Gary M. Thompson and Stephen A. Mutkoski, “Optimizing a Personal Wine Cellar,” *Cornell Hospitality Reports* Vol. 8, No. 5 (2008), p. 14; Center for Hospitality Research (<https://scholarship.sha.cornell.edu/chrpubs/147/>).

² The time required to develop the Tool is a different story.

age a purposeful decrease in the size of their cellars. The report closes with an appendix that identifies summary information about Version 4. In this report I will identify Exhibits that are new or modified in Version 4.

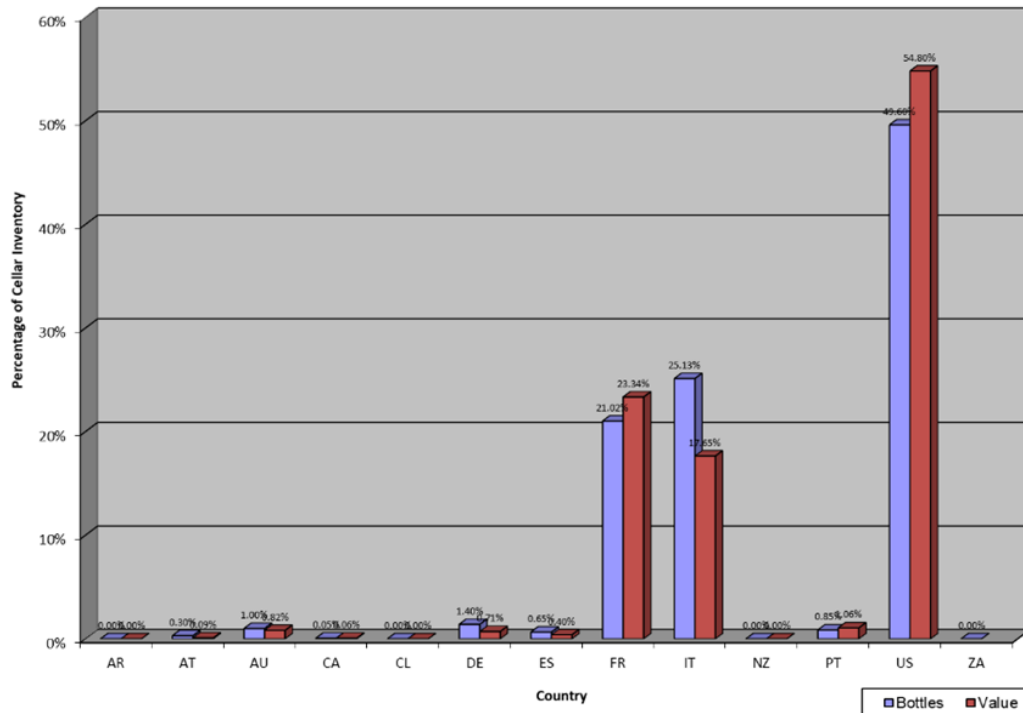
CELLAR ANALYSES

The cellar analyses can be broken down into those that are interesting or informative and those on which you can base your cellar-management actions. All the analyses presented in this report are based on data from a real wine cellar, but the data have been disguised to some extent to “protect the innocent.” It also bears mentioning that the exhibits were created from one cellar, or a sample of the wine from that cellar, at different points in time. This means that each exhibit shows information for a cellar at a point in time, but the exhibits in total will not tell a consistent story of one cellar at a single point in time.

Interesting and informative analyses. The Tool presents its analyses as a series of charts and tables. For example, Exhibit 1 (the Tool’s “Countries” worksheet) illustrates the composition of the cellar, by country of wine origin. In this cellar, wines from three countries dominate. USA wines constitute the most bottles and the most value in the cellar. Italian wines are the second highest number of bottles and the third highest value, while French wines are the third highest number of bottles but the second highest value. The remaining wines are from Australia, Germany, Spain, and Portugal.

EXHIBIT 1

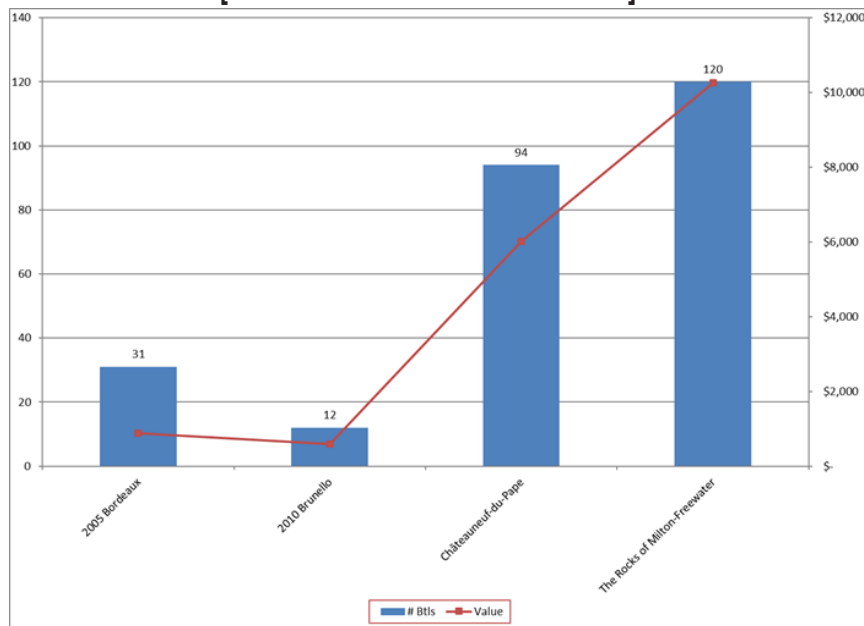
Cellar composition by country of origin [Version 4 includes percentage of Value]



It can be useful to create Special Designations for meaningful groups of wines. These designations might be based on particularly good vintages from certain growing areas, such as 2010 Brunellos (from Italy). Exhibit 2 (the Tool's "Special Designations" worksheet) illustrates the tally of four Special Designations, including the "Rocks of Milton-Freewater" with 10 cases of wine on-hand and "Châteauneuf-du-Pape" with just under eight cases on-hand.

EXHIBIT 2

Special Designation wine on hand [Version 4 includes the Total Value]



Tracking the cellar composition by vintage can yield information about whether the cellar is being replenished, or whether particularly strong vintages are well represented. Exhibit 3 (the Tool's "Vintages" worksheet) illustrates the cellar's composition, depicting a cellar containing wines from the 1994 vintage onwards, with most of the wine from the 2012 and more recent vintages. A wine vertical is when the cellar contains multiple vintages of the same wine.

EXHIBIT 3

Cellar composition by vintage [Version 4 includes the Total Value]

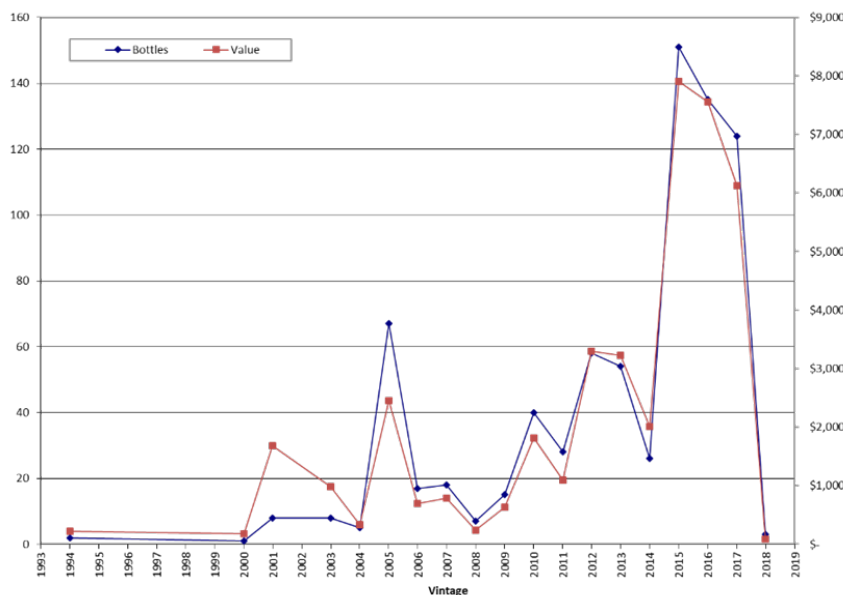
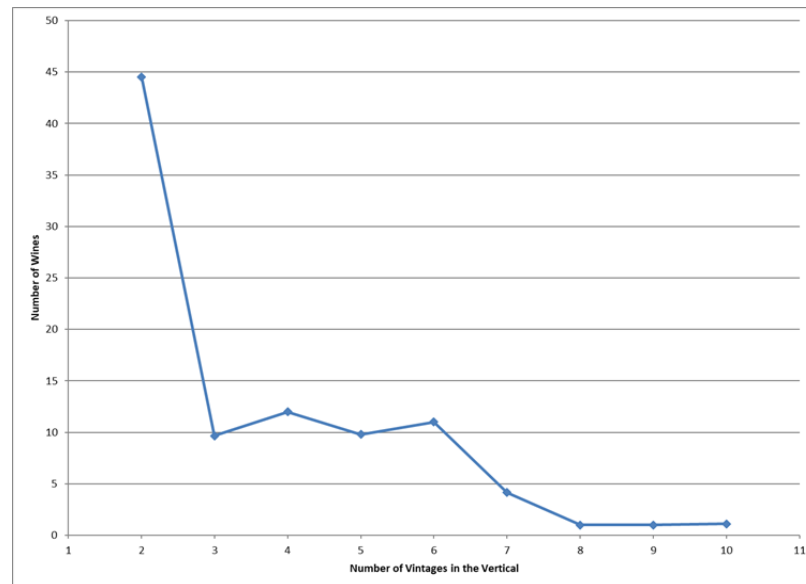


Exhibit 4 (the Tool's "Verticals" worksheet) shows the chart that identifies the number of wines for each vertical. As examples, one wine in the cellar is represented in 10 vintages, while 10 wines in the cellar are represented in five vintages.

EXHIBIT 4

Cellar composition by verticals [new in Version 4]



A related analysis examines the cellar composition by varietal type, as shown in Exhibit 5 (the Tool's "Varietals" worksheet). One is faced with a decision about the level of detail to use in defining the varietal types. Exhibit 5 uses a moderate level of detail. Thus, reflecting the cellar owners' wine preferences, Shiraz and Syrah (pure and blends) are the dominant wines, representing about 40 percent of the bottles on hand. One could define the varietal types at a broader level, using "Rhône-Style" to encompass the Grenache, Grenache Blend, Shiraz/Syrah (pure and blend wines), which in this cellar constitute about 58 percent of the bottles on hand.

EXHIBIT 5

Cellar composition by varietal

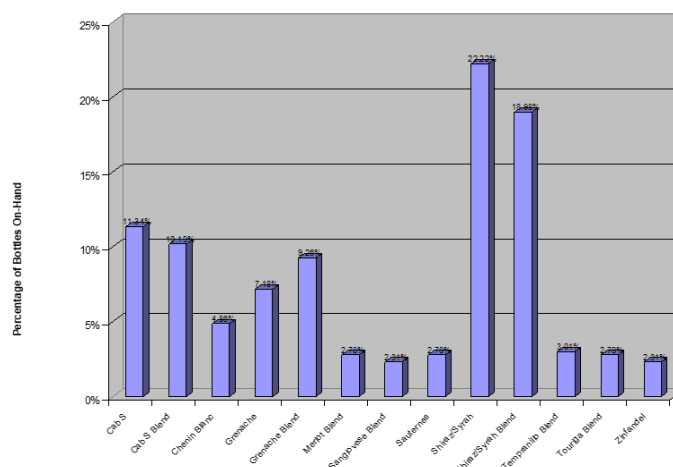
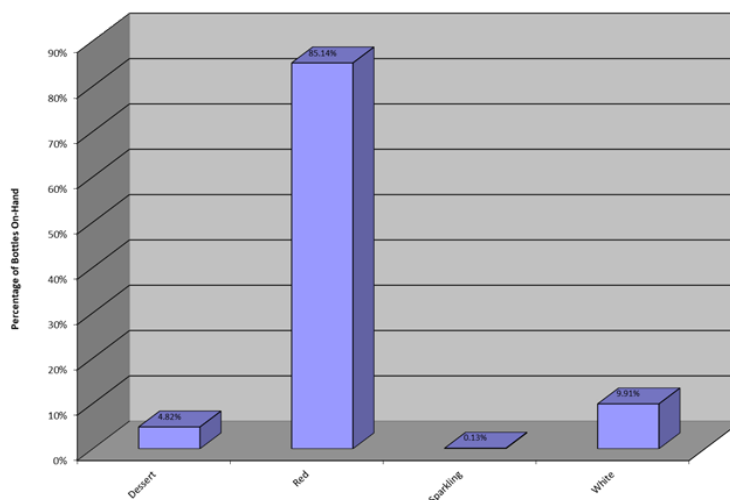


Exhibit 6 (the Tool's "Wine Colors" worksheet) illustrates another view of the cellar—the distribution of wines by color. As the colors are user-defined, greater or lesser detail is possible. For example, instead of "red", one could use "light-bodied red", "medium-bodied red", and "heavy-bodied red." In the cellar illustrated in Exhibit 6, just over 85% of the wine is red.

EXHIBIT 6

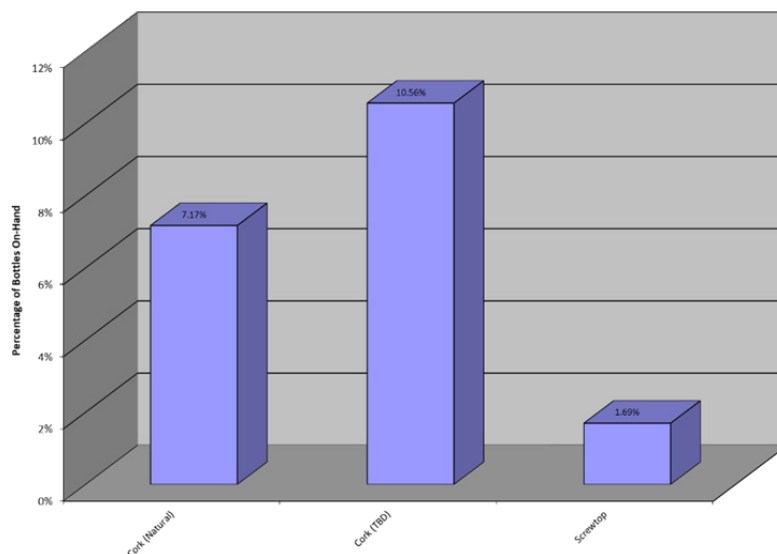
Cellar composition by color [new in Version 4]



The distribution of wine in the cellar by the type of closure is shown in Exhibit 7 (the Tool's "Closures" worksheet). Since the closure is an optional field in the Tool, the percentages may not total 100%, which is the case in Exhibit 7.

EXHIBIT 7

Cellar composition by closure [new in Version 4]



The wineries comprising the top 20, based on value, are shown in Exhibit 8 (the Tool's "Wineries (Value)" worksheet). The average rating scores are also shown for these wineries. For this example, the wineries have been given fake names, based on number; with real data the actual winery names would be shown. In the cellar shown, wineries 3 and 66 have the highest values in the cellar, followed by winery 8.

EXHIBIT 8

Cellar composition by winery value [new in Version 4]

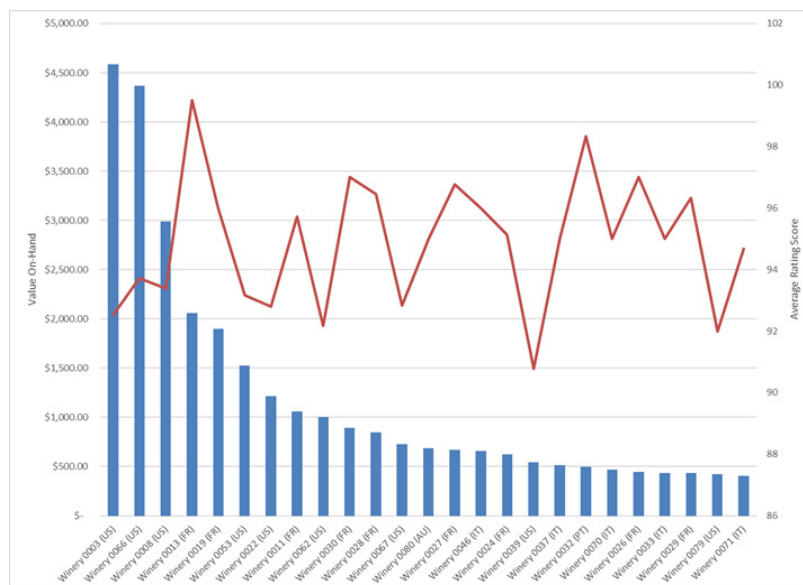


Exhibit 9 (the Tool's "Wineries (Bottles)" worksheet) is similar to Exhibit 8, except that the wineries are the top 20 based on the number of bottles in the cellar. Interestingly, the top three wineries are the same in both charts. While the value of wine from wineries 3 and 66 were similar, there are many more bottles of wine from winery 3 than there are from winery 66, which obviously means the price per bottle is much higher for winery 66.

EXHIBIT 9

Cellar composition by winery bottles [new in Version 4]

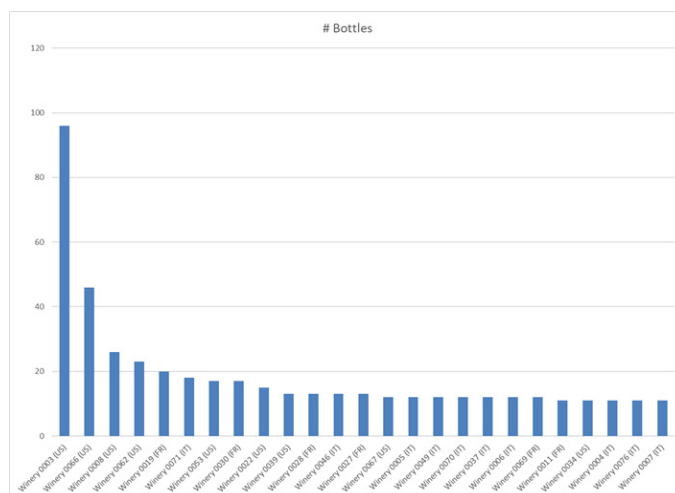
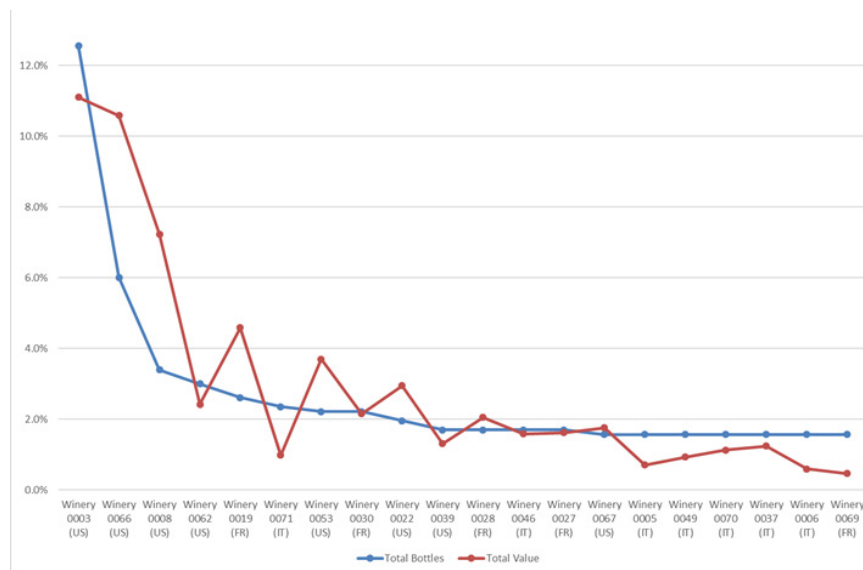


Exhibit 10 (the Tool's "Wineries (Props)" worksheet) shows the proportion of total bottles and total value for each of the top 20 wineries, based on bottle counts. Comparing the red (value) and blue (bottles) lines gives a sense of the relative bottle cost of the wineries. The wineries where the red line is higher than the blue line are those with higher relative bottle costs.

EXHIBIT 10

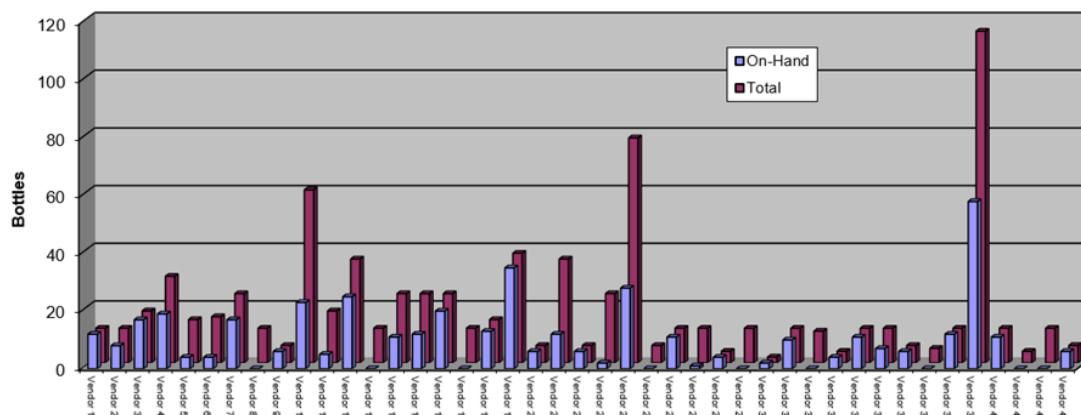
Cellar composition by winery proportions [new in Version 4]



Tracking the vendors from which one has purchased wine can also be valuable if you identify a particularly reliable vendor. Exhibit 11 (the Tool's "Vendors" worksheet) illustrates this analysis for the cellar in question (with vendor names anonymized). The exhibit displays both the number of bottles on hand, and the total number of bottles purchased from each vendor. For this cellar, Vendor 31 has been the dominant supplier, followed by Vendor 18.

EXHIBIT 11

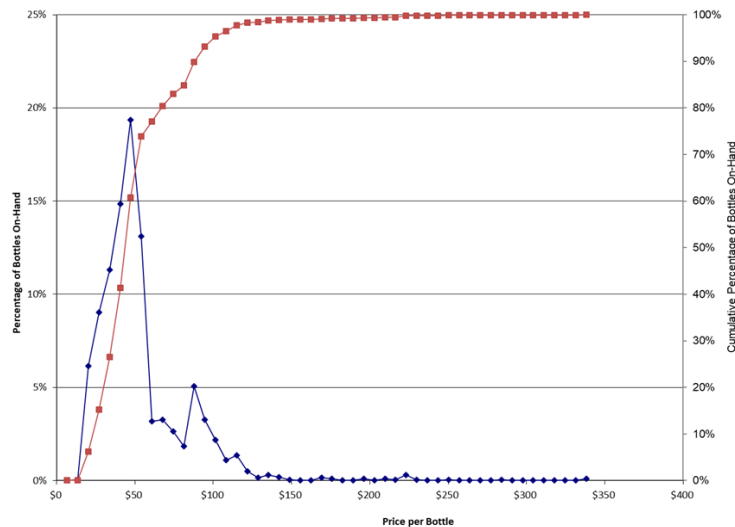
Wine purchases by vendor



Exhibits 12 and 13 provide views of the cellar from perspective of the wine price per bottle. Exhibit 12 (the Tool's "Prices (Bottles)" worksheet) illustrates the percentage of total bottles in the cellar, by the price per bottle. For the cellar in question, the highest percentage of total bottles is at \$47 per bottle, while only 10% of the bottles cost more than \$88 per bottle.

EXHIBIT 12

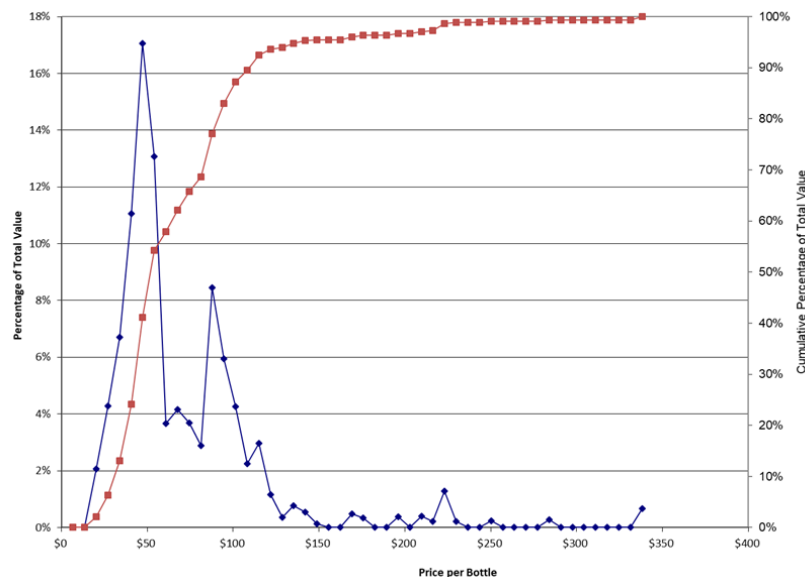
Cellar bottles by price per bottle [new in Version 4]



The percentage of total cellar value, by the price per bottle, is illustrated in Exhibit 13 (the Tool's "Prices (Value)" worksheet). For the cellar in question, the highest percentage of total value is also at \$47 per bottle, but only 10% of the total value is from wines that cost more than \$108 per bottle.

EXHIBIT 13

Cellar value by wine price per bottle [new in Version 4]



Rating wines is a common practice. The three most popular rating sources use 100-point scales: *International Wine Cellar*, *Wine Advocate*, and *Wine Spectator*³. The Tool allows you to apply these ratings or develop your own ratings. Regardless of the source of the ratings, it can be useful to examine the cellar composition with respect to the rating scores of the wines, such as is done in Exhibit 14 (the Tool's "Rating Scores" worksheet). In this cellar, 92-, 95-, 93- and 94-point wines are the most common. The chart is informative, in that it shows the representation in the cellar of higher-rated wines, which are often considered to be more worthy of longer cellaring.

It often seems that there is a weak relationship between the price of wine and its quality⁴. A simple way to examine this relationship is to plot the price of the cellar's wines as a function of their rating score, an analysis shown in Exhibit 15 (the Tool's "Score vs Price" worksheet). This chart clearly shows a relationship between price and rating. However, the relationship does not appear to be linear, since price is increasing proportionally faster than rating. These results are consistent with the law of diminishing returns.

³ See: Gary M. Thompson, Stephen A. Mutkoski, Youngran Bae, Liliana Ielacqua, and Se Bum Oh, "An Analysis of Bordeaux Wine Ratings, 1970-2005: Implications for the Existing Classification of the Médoc and Graves," *Cornell Hospitality Reports*, Vol. 8, No. 11 (2008), Cornell Center for Hospitality Research (<https://scholarship.sha.cornell.edu/chrpubs/145/>)

⁴ Ibid.

EXHIBIT 14

Cellar composition by rating score [Version 4 includes percentage of total bottles on-hand]

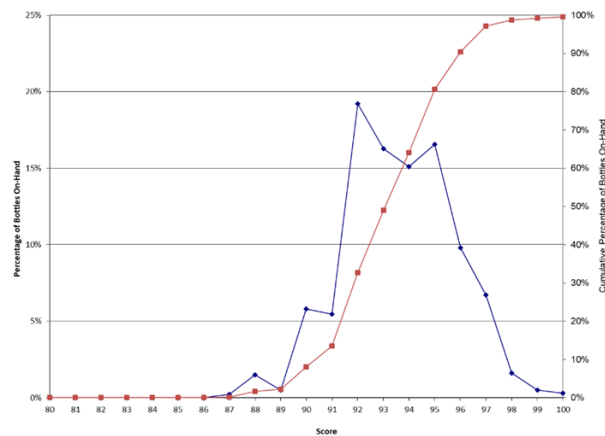
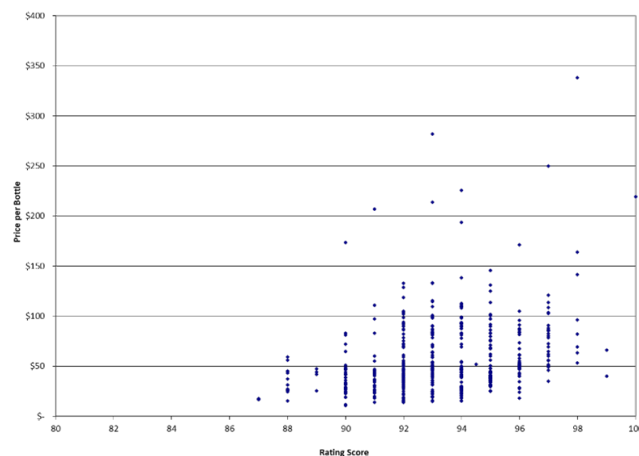


EXHIBIT 15

Wine price as a function of rating score



The wine purchases can be examined with respect to price, as illustrated in Exhibit 16 (the Tool's "Wines by Price" worksheet). Here, the number of different wines in the cellar is plotted for different ranges of price per bottle. For the cellar in question, bottle prices in the \$15 to \$20 range are the most common, followed by wines in the \$10 to \$15 price range. It is important to note that the price-range categories are not equal in this exhibit: the ranges expand with more expensive bottle prices. One's wine budget will largely determine whether the purchases are skewed to the left, as they are in this exhibit, where budget-priced wines dominate, or skewed to right.

EXHIBIT 16

Number of different wines in the cellar, by price per bottle

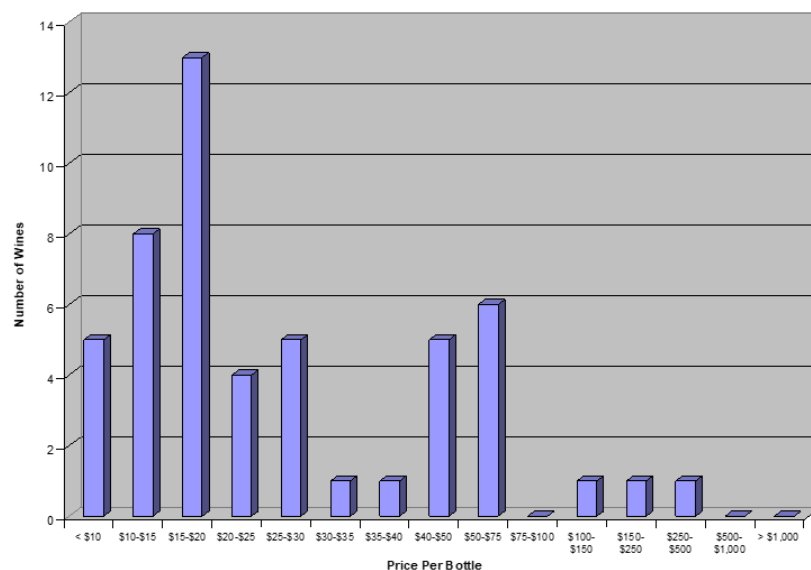
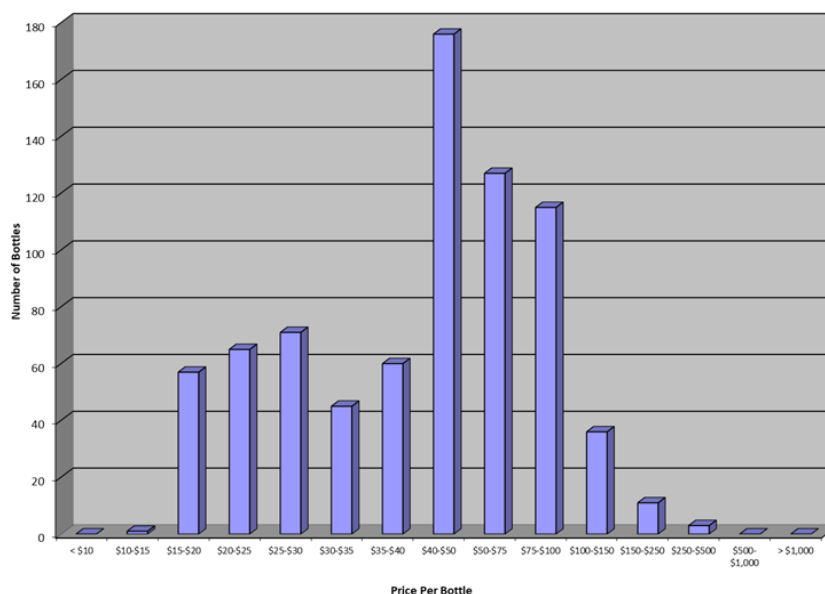


Exhibit 17 (the Tool's "Bottle by Price" worksheet) plots the number of bottles with respect to price. For this cellar, bottle prices of \$40 to \$100 are the most common and there are relatively few bottles of \$20 and under.

EXHIBIT 17

Number of bottles in the cellar, by price per bottle [new in Version 4]



When purchasing wine, there is always the issue of the number of bottles of a wine to purchase. As noted in my earlier CHR report with Professor Mutkoski:

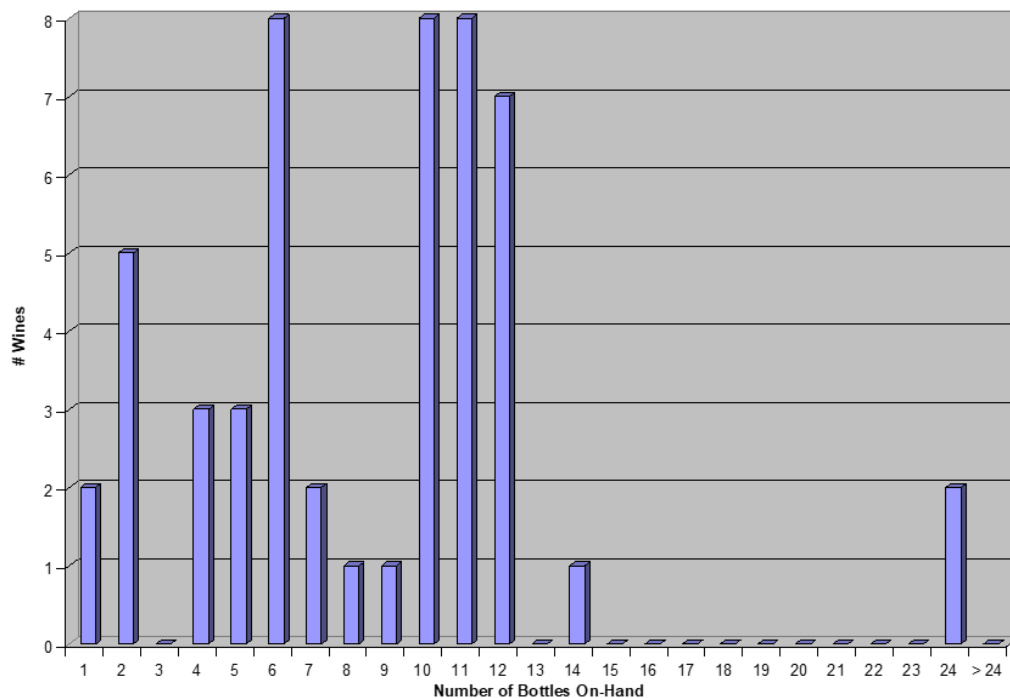
Having multiple bottles of the same wine allows one to taste the wine over time, seeing how it develops and ensuring that at least some bottles are consumed at their peak. Another reason to buy more than a single bottle of each wine, particularly for good wines, is that a person may wait too long for an occasion that's "special enough" to merit opening that one outstanding bottle. Then when it is opened, it may be past its peak.⁵

Exhibit 18 (the Tool's "Bottles On-Hand" worksheet) shows the number of different wines in the cellar, by the number of bottles on hand. In this cellar, the most common numbers of bottles on hand are 6, 10 and 11, while two of the wines have 24 bottles on hand.

⁵ Thompson and Mutkoski, p. 10.

EXHIBIT 18

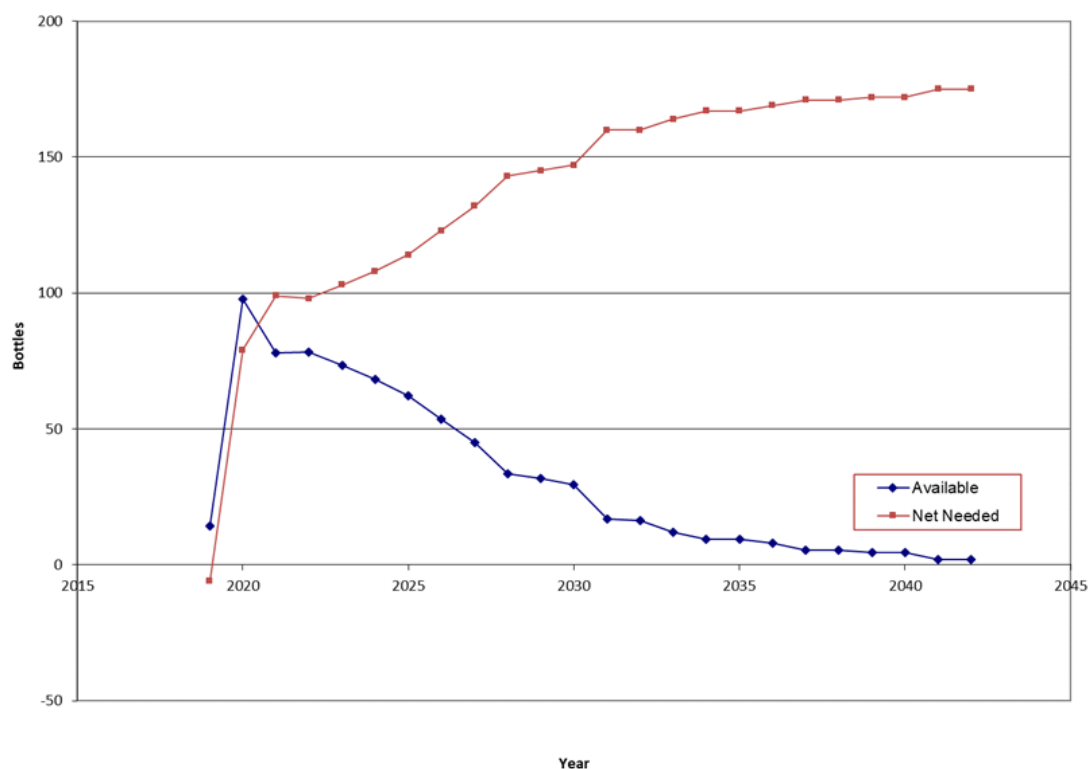
Number of different wines in the cellar, by number of bottles on hand



As I described in the introduction, wines vary in how they age over time. Each wine can be thought of as having a peak drinking window—the period during which the wine is best consumed. That window will vary based on, among other things, the grape varietals in the wine, the growing conditions of the vintage, and how the wine was made. Experienced wine drinkers can estimate the peak drinking window. Also, it is common for the rating services mentioned earlier to provide information like “drink now” or “best from 2022 to 2035.” By assuming that each wine will be consumed at a more or less constant rate over its peak drinking window, you can get an idea of how many bottles will be available for consumption each year by summing the predicted consumption across all wines, as illustrated in Exhibit 19 (the Tool’s “Btls Avl by Yr” worksheet). For the cellar in question, about 15 bottles would be available in 2019 (the chart was created in late 2019), rising to about 100 in 2020, and then declining until fewer than ten bottles would be available per year beginning in 2033. Obviously, the shape of this curve will vary with the time of the year (the current year will look different early in the calendar year compared to late in the calendar year) and with the nature of the wines in the cellar (long-lived wines will yield a chart that looks different than that from short-lived wines). Moreover, this chart does not say which wines will be consumed, since that is a personal choice.

EXHIBIT 19

Estimated number of bottles available for consumption, by year [Version 4 includes the Net Needed]



The “Net Needed” line shown in Exhibit 19 is the number of additional bottles that would be needed in the year to meet the predicted wine consumption. The negative Net Needed for 2019 indicates that, based on the date the chart was created (near the end of 2019), there was a small surplus of wine available within the peak drinking window. If the number of bottles available for consumption in a year notably exceeds the number of bottles that you typically consume in a year, chances are that many wines are nearing the end of their peak drinking periods. In that case, it may either be time to have some large parties or to sell some of the wine on the auction market.

The bottles available by year by wine color, is shown on the Tool's "Btls Avl by Yr by Color" worksheet. Exhibit 20 shows a screenshot of this chart, in which the wine "colors" are user-defined. Based on the assumption that wines will be consumed evenly throughout their peak drinking window, this chart can help guide purchase decisions, with respect to the timing and length of the drink windows for wines being considered for purchase.

EXHIBIT 20

Estimated number of bottles available for consumption, by color, by year

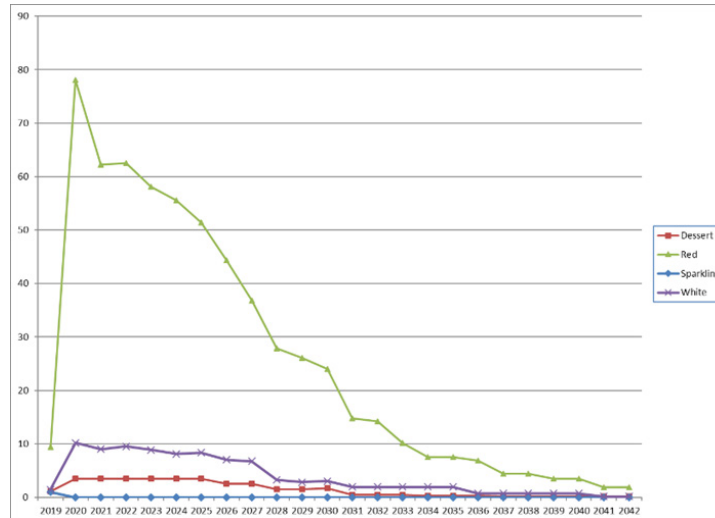
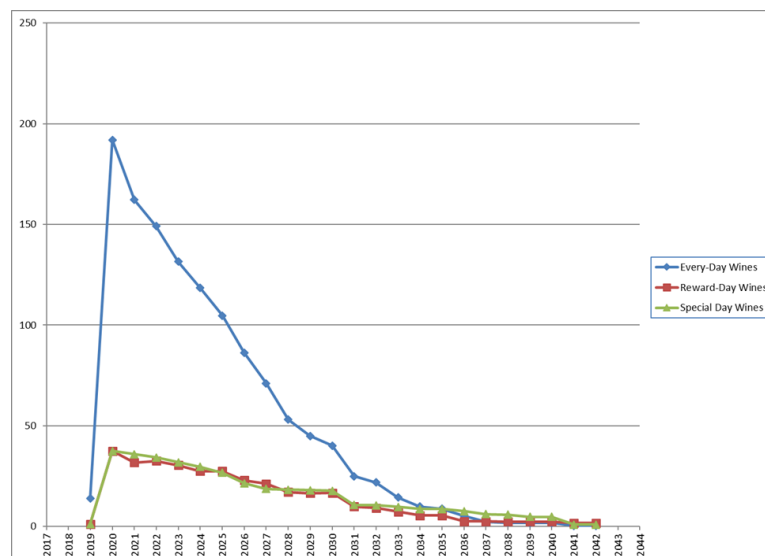


Exhibit 21 (the Tool's "Btls Avl by Yr by Cat" worksheet) shows a chart similar to that shown in Exhibit 20, except that the bottles available by year are for the categories of Every-Day, Reward-Day, and Special Occasion wines. Later in this report I discuss how the three categories are defined. Because the Special Occasion wines are often those with longer aging window, there is a slower decline in the number of bottles available per year for those wines, compared to the decline for wines in the other two categories.

EXHIBIT 21

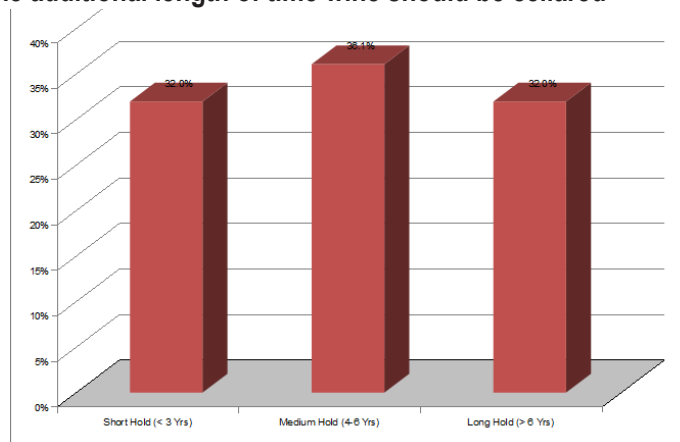
Estimated number of bottles available for consumption, by category, by year [new in Version 4]



Another way to look at a cellar is to assess its peak drinking windows. Based on the end of the peak drinking period, each wine can be categorized as short-lived, medium-lived, or long-lived. Short-lived wines can be defined as having peak drinking periods that expire within three years of the analysis date. By contrast, the peak drinking windows of long-lived wines expire more than six years in the future. Medium-lived wines fall in the middle of these time frames. The percentages of wine in the cellar that fall in each of these categories can then be examined, as shown in Exhibit 22 (the Tool's "Inv Composition" worksheet). The cellar in question is balanced between short-, medium-, and long-lived wines, since each category represents about one third of the bottles in the cellar.

EXHIBIT 22

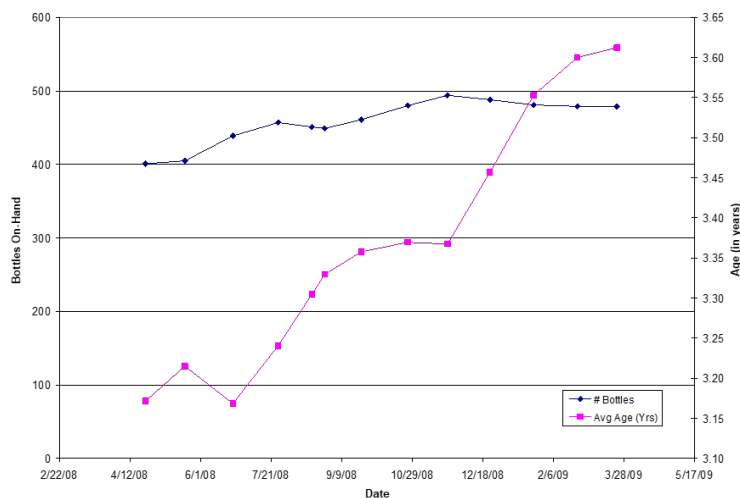
Cellar composition by the additional length of time wine should be cellared



All the analyses that I have discussed so far are static. They describe the state of the cellar at any time, but they do not track how the cellar's status has changed over time. The Tool has six time-based tracking features, which it updates automatically every month, and which are illustrated in Exhibits 23 through 28. Exhibit 23 (the Tool's "Cellar History, Pt 1" worksheet) presents an example of two metrics tracked over time—namely, the number of bottles in the cellar, and the average age of the wines in the cellar. This exhibit shows that the sample cellar was increasing in size for the first nine months that it was tracked, but that the size has stabilized over the last five months. Over the entire period, the average age of the wine in the cellar has increased. Stability in the number of bottles in the cellar and the age of the wines in it are indicative of a stable cellar.

EXHIBIT 23

Cellar size and average bottle age over time



The second historical chart is illustrated in Exhibit 24 (the Tool's "Cellar History, Pt 2" worksheet). It shows the evolution in the average rating score of wines in the cellar and total value of the cellar. For the cellar in question, both the average score and total value have been increasing, which is the result of the decision to consume the lower-cost and lower-rated wines sooner than those with higher costs and ratings.

EXHIBIT 24

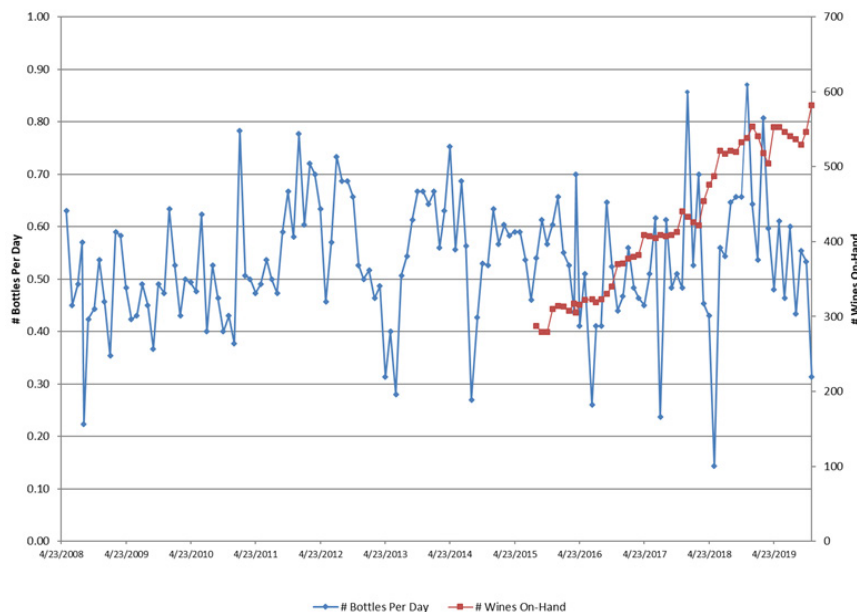
Average rating score and total cellar value over time



The "Cellar History, Pt 3" chart, the Tool's third time-based chart, which is illustrated in Exhibit 25 (the Tool's "Cellar History, Pt 3" worksheet), now also tracks the number of different wines in the cellar over time. This can be particularly useful for commercial cellars. For the cellar shown, the number of different wines has increased from under 300 in 2015 to close to 600 in 2019 (when the chart was created).

EXHIBIT 25

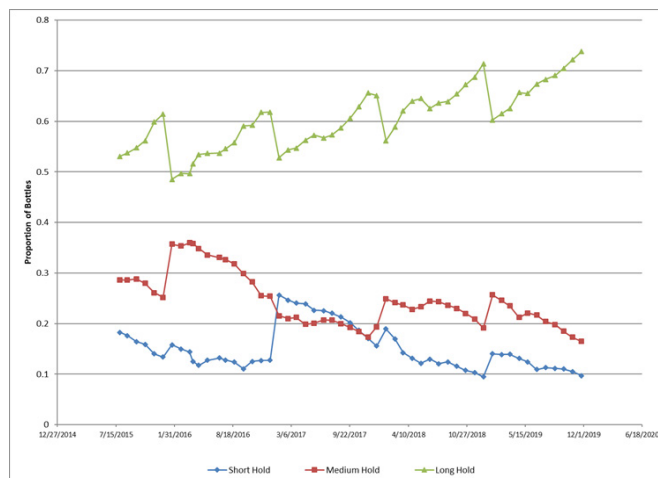
Consumption in bottles per day and number of different wines on-hand over time [Version 4 added the number of different wines]



The chart in Exhibit 26 (the Tool’s “Cellar History, Inv Comp” worksheet), which tracks the proportion of wine in the cellar falling in each of the short-hold, medium-hold, and long-hold categories, is the Tool’s fourth time-based chart. This chart can yield insights into how the cellar composition has evolved over time. For the cellar in question, the proportion of long-hold wines has increased, while the proportions have fallen for medium-hold and short-hold wines. The “step” shape of the long-hold wines is a result of the Tool updating the classification of the wines at the beginning of a year: some long-hold wines will move into the medium-hold category, while some medium-hold wines will move to the short-hold category.

EXHIBIT 26

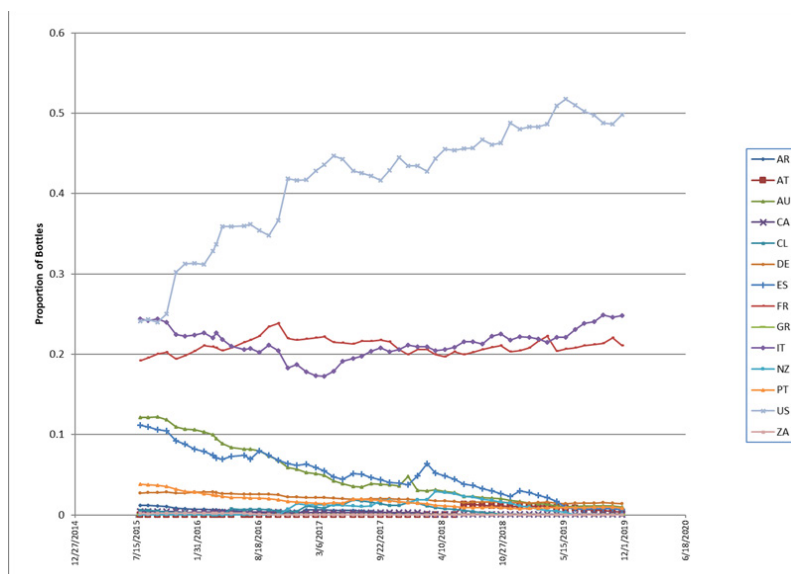
Cellar history by wine hold-times



The fifth time-based chart is the cellar composition by country of origin over time, which is found in the Tool’s “Cellar History, Countries” worksheet. A screenshot of the chart is shown in Exhibit 27 (the Tool’s “Cellar History, Countries” worksheet). Like the inventory composition chart, the country composition of the cellar will evolve over time, based on purchase and consumption decisions. For the cellar illustrated, the proportion of USA wines approximately doubled from 2015 to 2019 (when the chart was created).

EXHIBIT 27

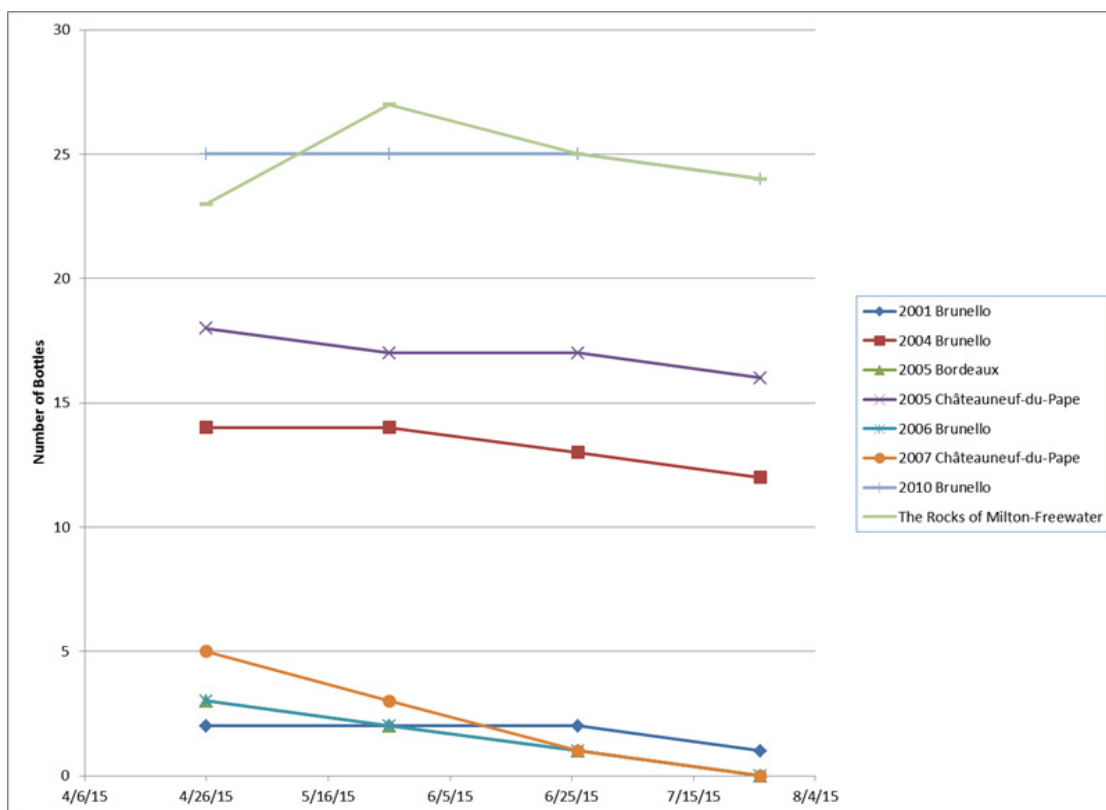
Cellar history by country of origin



The cellar composition by Special Designation over time is the sixth time-based chart, an example of which is shown in Exhibit 28 (the Tool's "Cellar History, Spc Dsgns" worksheet). This chart offers a good way to see changes over time in the quantities of the wines falling in the user-defined Special Designation categories. For the cellar illustrated, there was not a lot of change over the four-month period shown.

EXHIBIT 28

Cellar history by special designation



In addition to the analyses that can be presented in chart format, the Tool presents certain numerical statistics, as shown in Exhibit 29 (the Tool's "Summary Stats" worksheet). The average price per bottle and average rating score are calculated both for total purchases and for the wines on hand. Comparing these numbers for the cellar in question shows that the on-hand wines are both more expensive and higher-rated than the total purchases, which indicates that the less-expensive and lower-rated wines are being consumed at a higher rate than the more-expensive and high-rated wines. That outcome is consistent with the goal of keeping the better wines in the cellar a longer time (and for saving certain wines for special occasions, as I discuss below). Many of the analyses shown in Exhibit 29 are performed on the actual number of bottles and also for the "standard bottle equivalents," which adjusts the calculations based on the sizes of the bottles in the cellar, and converts the values to the equivalents of standard (i.e., 0.75 liter) bottles.

EXHIBIT 29

Summary statistics for the cellar

Purchased Wines		Rating Score	# Bottles	%
Actual Bottles ...		>= 95	297	38.72%
Average \$/Bottle	\$ 31.52	>= 94	400	52.15%
Average Rating Score per Bottle	92.58	>= 93	525	68.45%
# Bottles	3,044	>= 92	676	88.14%
Standard Bottle Equivalents ...		<= 89	13	1.69%
Average \$/Bottle	\$ 31.80	<= 88	13	1.69%
Average Rating Score per Bottle	93.47	< 88	3	0.39%
# Bottles	3,050			
On-Hand Wines				
Actual Bottles ...				
# Bottles	767			
Average \$	\$ 53.88			
Average Rating Score	93.72			
Average Age (Days)	2,354			
Average Age (Years)	6.45			
Zero-Inventory Date	4/17/24			
Bottles Consumed per Week	3.39			
3-Mnth Avg Btls per Week	3.27			
Total \$	\$ 41,322			
Standard Bottle Equivalents ...				
# Bottles	774			
Average \$	\$ 54.69			
Average Rating Score	93.68			

The Zero-Inventory Date shown in Exhibit 29 is the date at which the cellar would be empty if no additional bottles were purchased and consumption continued at its current rate. The summary statistics can also track the percentage of wines in the cellar that have rating scores higher or lower than specified values. For the cellar in question, 38.7 percent of the bottles have rating scores of 95 or higher, for instance, while 1.7 percent of the wines have rating scores of 89 or lower.

Actionable Analyses. I describe the above analyses as interesting and informative, because they don't guide you in deciding when and which wine to drink. The analyses I present next can provide information helpful in guiding consumption and promotion choices or decisions to reorder certain wines. A larger number of these analyses are available via the "View Wine Analyses" button on the "Switchboard" worksheet, which opens the "Wine Analyses" form. The analyses available in this form can be filtered based on the wine color, varietal, and country of origin.

Perhaps the most important actionable analysis is a watch list of wines, which is based on each wine's peak drinking window. For each wine, the Tool divides the number of days that remain in the peak drinking window by the number of bottles on hand, and presents the wines in order, starting with those having the least time left per bottle, meaning those that are closing in on the end of their peak drinking window. As shown in Exhibit 30, the wine highest on the watch list for this cellar has a consumption metric of -535 days. Negative values result when a wine is held past its specified peak drinking window, which people sometimes choose to do to see how the wine holds up to extended aging. The third wine on the list has a consumption metric of 98 days, which indicates that a bottle of this wine should be consumed every 98 days, so that it is consumed completely within the peak drinking window. Since drinking about a bottle every three per months is not a challenge, it is doubtful that there would be a problem consuming this wine within its peak drinking window. However, if many wines in the cellar were nearing the end of their peak drinking window, the watch list would have more wines with small numbers of days between consumption. At that point, the wines would be candidates either for being consumed at a party you host or for being sold on the auction market.

EXHIBIT 30

A Watch List of wines to ensure consumption during their peak drinking windows

Wines Meeting the Criteria
Analysis Options

[-535.0] [01/24] Chateau Tanunda 2008 Syrah Grand Barossa Shiraz 0.75 L
[-170.0] [01/12] Rex Hill 2009 Pinot Noir Willamette Valley Pinot Noir 0.75 L
[98.0] [02/03] Carlisle 2012 Zinfandel Zinfandel, Napa Valley, Hayne Vineyard 0.75 L
[98.0] [02/02] Carlisle 2012 Zinfandel Russian River Valley, Limerick Lane 0.75 L
[98.0] [02/02] Carlisle 2013 Zinfandel Zinfandel, Russian River Valley, Limerick Lane 0.75 L
[98.0] [02/04] Keep Wines 2016 Syrah Syrah Napa Valley 0.75 L
[98.0] [02/12] Poggio Il Castellare 2004 Brunello Brunello di Montalcino 0.75 L
[183.8] [11/12] Proper Wines 2017 Syrah Proper Syrah 0.75 L
[184.4] [07/15] Bedrock Wine Co 2018 Syrah Syrah California 0.75 L
[185.2] [05/06] Carlisle 2013 Zinfandel Zinfandel, Russian River Valley, Papera Ranch 0.75 L
[187.0] [03/08] Carlisle 2013 Syrah Syrah, Sonoma County 0.75 L
[187.0] [03/04] Carlisle 2013 Zinfandel Zinfandel, Russian River Valley, Montafi Vineyard 0.75 L
[187.0] [03/04] Turley 2019 Cinsault Bechthold Vineyard Cinsault 0.75 L
[192.4] [20/24] Bodegas y Vinedos Valdez 2016 Tempranillo Blend Ribera del Duero 0.75 L
[196.0] [01/02] Carlisle 2011 Syrah Syrah, Sonoma Mountain, Steiner Vineyard 0.75 L
[196.0] [01/02] Carlisle 2011 Zinfandel Zinfandel, Russian River Valley, Carlisle Vineyard 0.75 L
[196.0] [01/04] Carlisle 2011 Zinfandel Zinfandel, Sonoma County 0.75 L
[196.0] [01/18] Fox Gordon 2004 Shiraz Eight Undies Barossa Valley 0.75 L
[196.0] [01/08] Pillar Box 2008 Shiraz Reserve Shiraz 0.75 L
[196.0] [01/08] Yalumba 2005 Shiraz Viognier Hand Picked Barossa Valley 0.75 L
[206.0] [24/24] Castellare di Castelnuovo 2017 Sangiovese & Canaiolo Chianti Classico 0.75 L
[207.1] [08/12] Corte Pavone 2006 Brunello Brunello Di Montalcino 0.75 L
[226.4] [17/24] Chateau de Saint Cosme 2010 Grenache, Mourvedre, Cinsault, Syrah Gigondas 0.75 L
[232.2] [15/24] Casaloste 2015 Sangiovese Chianti Classico 0.75 L
[276.7] [07/07] Keep Wines 2019 Counoise Counoise Sierra Foothills, David Grand Vineyard 0.75 L
[276.7] [10/12] Domaine Saint Prefert 2005 Chateaufneuf Du Pape Reserve Auguste Favie 0.75 L
[275.2] [10/12] Punset 2007 Nebbiolo Barbaresco 0.75 L
[275.2] [10/12] Two Hands 2012 Shiraz Bella's Garden Barossa Valley 0.75 L
[276.2] [06/12] Bedrock Wine Co 2014 Field blend (25 varietals) Bedrock Heritage 0.75 L
[276.2] [06/06] Carlisle 2015 Zinfandel Zinfandel, Russian River Valley, Carlisle Vineyard 0.75 L
[276.2] [06/06] Carlisle 2015 Zinfandel Zinfandel, Russian River Valley, Papera Ranch 0.75 L
[280.5] [02/02] Carlisle 2012 Zinfandel Zinfandel Dry Creek Valley 0.75 L
[280.5] [02/04] Carlisle 2012 Zinfandel Zinfandel, Russian River Valley, Carlisle Vineyard 0.75 L
[280.5] [02/05] Carlisle 2013 Zinfandel Zinfandel, Sonoma County 0.75 L
[288.9] [07/12] Albino Rocca 2007 Nebbiolo Barbaresco Duemilasette 0.75 L
[298.4] [08/12] La Poderina 2006 Brunello Brunello di Montalcino 0.75 L
[305.8] [09/12] Clos du Mont-Olivet 2005 Chateaufneuf Du Pape Reserve Auguste Favie 0.75 L
[308.7] [03/04] Carlisle 2012 Zinfandel Zinfandel, Russian River Valley, Papera Ranch 0.75 L
[308.7] [03/03] Keep Wines 2017 Cilieglio Cilieglio, Ripken Vineyard 0.75 L

Notes

The 'Watch List' option lists wines in declining order of days-between-bottle consumption, to ensure that the wine will be consumed within its peak drinking window. For example, a number like '[7.0]' would indicate that you would need to consume a bottle of this wine every week to ensure that you consume the wine by the end of the 'Drink-Through' period.

The numbers in the second set of brackets are the number of bottles remaining of the number of bottles purchased.

Analysis Options

- ☒ Watch List (drink-now wines)
- ☐ Consume-a-Bottle-By Wines
- ☐ High Consumption Rate
- ☐ Predicted Expiry Date
- ☐ Corked Wines

Analyze Corked Wines by...

☐ Closure

☐ Vintage

☐ Shipping Method

☐ Vendor

☐ Varietal

☐ Winery

Every-Day Wines: Max Score #Btls Est Expiry Dt

Reward-Day Wines: Min Score Btls/Wk:

Special Occ. Wines: Min Score #Btls Total Bottles: Btls/Yr

Categorize Wines Based on:

☒ Rating Score

☐ Purchase Price

☐ Sort By

☐ Drink-Now Score

☐ Rating Score

☐ Purchase Price

☐ Winery

Print List < **Pick a Wine for Me!**

Filter By...

Color:

Varietal:

Country:

Print Bottle Count by Winery & Vintage (sorted by winery)

Print Bottle Count by Winery & Vintage (sorted by bottles)

Close

A new feature in Version 4 of the Tool is the ability to define a Consume-a-Bottle-By date for each wine. This can be particularly useful with aging-worthy wines. After sampling a bottle, one can set a new Consume-a-Bottle-By date. As shown in Exhibit 31, the Tool will list the wines for which Consume-a-Bottle-By dates have been defined, in chronological order.

EXHIBIT 31

Consume-a-Bottle-By Wines [new in Version 4]

Wine Analyses

Wines Meeting the Criteria

[8/1/2020]	Torrin Vineyard 2016 Syrah Akasha Syrah 0.75 L [02/02]
[9/1/2020]	Thomas 2015 Pinot Noir Pinot Noir, Dundee Hills 0.75 L [04/04]
[10/31/2020]	Elvio Cogno 2007 Barolo Barolo Cascina Nuova 0.75 L [11/12]

Analysis Options

☐ 'Watch List' (drink-now wines)
 ☐ 'Consume-a-Bottle-By' Wines

Consider:

☒ All Wines
 ☐ On-Hand Only

☐ High Consumption Rate
 ☐ Predicted Expiry Date
 ☐ Corked Wines

Analyze Corked Wines by...

☐ Closure
 ☐ Vintage
 ☐ Shipping Method
 ☐ Vendor
 ☒ Varietal
 ☐ Winery

☐ Every-Day Wines
 Max Score: 94 # Btls: 1124 Est Expiry Dt:
 ☐ Reward-Day Wines
 329 Btls/Wk: 2
 ☐ Special Occ. Wines
 Min Score: 95 323 Btls/Yr: 10
 Total Bottles: 1781

Categorize Wines Based on

☒ Rating Score
 ☐ Purchase Price

Sort By

☒ Drink-Now Score
 ☐ Rating Score
 ☐ Purchase Price
 ☐ Winery

Print List <

Pick a Wine for Me!

Filter By...

Color: Red
 Varietal: All Varietals
 Country: All Countries

Notes

'Consume-A-Bottle-By Wines' are those for which you have specified dates by which a bottle should be consumed. Specifying such dates--and drinking a bottle near the specified date--can help you see how a wine is developing over time, so that the majority of its bottles are consumed at the wine's peak.

Print Bottle Count by Winery & Vintage (sorted by winery)

Print Bottle Count by Winery & Vintage (sorted by bottles)

Close

EXHIBIT 32

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Using the number of bottles on hand and the consumption rate of a wine, one can predict the date at which all of that wine will be consumed, assuming the consumption rate stays constant. I'll call this date the "expiry" date. The wines are sorted from near to far expiry dates. Exhibit 33 shows this analysis from the Tool, which is predicting that 18 wines will be fully consumed by the end of 2020. Again, wines that have predicted expiry dates near at hand may be candidates for additional purchases.

EXHIBIT 33

Wines listed in ascending date of the predicted consumption of the last bottle on hand

Wine Analyses

Wines Meeting the Criteria

[07/29/20]	[01/24]	Bodegas Olarra 2010 Tempranillo Rioja Cerro Añon Reserva 0.75 L
[08/10/20]	[01/08]	Keep Wines 2018 Pinot Meunier Pinot Meunier, Yount Mill Vineyard 0.75 L
[08/27/20]	[01/48]	Pillar Box 2008 Shiraz Reserve Shiraz 0.75 L
[09/11/20]	[02/04]	Halcón Vineyards 2018 Mourvedre Mourvedre 0.75 L
[09/11/20]	[02/04]	Halcón Vineyards 2018 Grenache Grenache 0.75 L
[09/13/20]	[01/12]	Bodegas y Vinos Valderiz 2014 Tempranillo Blend Ribera del Duero 0.75 L
[10/01/20]	[01/02]	Sandlands Vineyards 2018 Cinsault, Carignane, Zinfandel Lodi Red Table Wine 0.75 L
[10/06/20]	[03/04]	Turley 2019 Cinsault Bedtholdt Vineyard Cinsault 0.75 L
[10/19/20]	[01/12]	Delmas 2014 Syrah, Viognier Syrah Walla Walla Valley 0.75 L
[10/20/20]	[01/24]	Thomas Goss 2010 Shiraz Shiraz 0.75 L
[10/27/20]	[01/24]	Calera 2010 Pinot Noir Pinot Noir Central Coast 35th Anniversary 0.75 L
[10/31/20]	[07/15]	Bedrock Wine Co 2018 Syrah Syrah California 0.75 L
[11/03/20]	[01/24]	Chateau Tanunda 2008 Syrah Grand Barossa Shiraz 0.75 L
[11/17/20]	[01/05]	Rivers-Marie 2016 Pinot Noir Occidental Ridge Pinot Noir 0.75 L
[11/18/20]	[03/10]	Apsara Cellars 2015 Syrah Syrah, Las Madres Vineyard 0.75 L
[11/21/20]	[01/12]	Delmas 2013 Syrah, Viognier Syrah Walla Walla Valley 0.75 L
[12/03/20]	[01/24]	Marchesi de' Frescobaldi 2007 Cab S, Merlot, Cab F, Sangiovese Tenuta di Castiglioni Toscana Rosso 0.75 L
[12/19/20]	[02/03]	Alban 2016 Syrah Patrina 0.75 L
[01/07/21]	[01/12]	Bodega Aster 2009 Tempranillo Ribera del Duero Crianza 0.75 L
[01/09/21]	[02/24]	Tommasi 2011 Sangiovese & Cab S Poggio Al Tufo Rompicollo 0.75 L
[01/20/21]	[01/03]	Myriad Cellars 2017 Syrah Syrah Halcón Vineyard 0.75 L
[01/20/21]	[01/03]	Myriad Cellars 2017 Syrah Syrah Las Madres Esther Block 0.75 L
[01/20/21]	[01/03]	Myriad Cellars 2017 Syrah Syrah Sangiacomo 0.75 L
[01/26/21]	[01/03]	Halcón Vineyards 2017 Syrah Alturas 0.75 L
[01/29/21]	[02/06]	Once and Future 2017 Mourvedre Mataro Oakley Road Vineyard 0.75 L
[02/01/21]	[01/03]	Rivers-Marie 2017 Pinot Noir Bearwallow Vineyard Pinot Noir 0.75 L
[02/01/21]	[01/03]	Rivers-Marie 2017 Pinot Noir Platt Vineyard Pinot Noir 0.75 L
[02/01/21]	[01/03]	Rivers-Marie 2017 Pinot Noir Summa Vineyard Pinot Noir 0.75 L
[02/12/21]	[03/04]	Quivet Cellars 2018 Syrah Syrah Kenefick Ranch Vineyard 0.75 L
[02/16/21]	[02/04]	Keep Wines 2016 Syrah Syrah Napa Valley 0.75 L
[03/06/21]	[02/12]	Proper Wines 2014 Syrah Proper Syrah 0.75 L
[03/12/21]	[07/24]	San Felice 2016 Sangiovese, Colorino and Pugnitello Chianti Classico 0.75 L
[03/12/21]	[01/06]	Reynvaan Family Vineyards 2014 Syrah The Unnamed Syrah 0.75 L
[03/30/21]	[01/18]	Fox Gordon 2004 Shiraz Eight Undes Barossa Valley 0.75 L
[04/07/21]	[01/12]	Rex Hill 2009 Pinot Noir Willamette Valley Pinot Noir 0.75 L
[05/19/21]	[01/05]	Bedrock Wine Co 2015 Zinfandel blend Zinfandel Old Vine 0.75 L
[05/22/21]	[02/12]	Proper Wines 2013 Syrah Proper Syrah 0.75 L
[06/11/21]	[05/06]	Keep Wines 2019 Pinot Meunier Pinot Meunier, Yount Mill Vineyard 0.75 L
[06/30/21]	[01/08]	Carlisle 2011 Zinfandel Zinfandel, Sonoma Valley, Monte Rosso VY 0.75 L

Analysis Options

☐ Watch List (drink-now wines)
 ☐ Consume-a-Bottle-By Wines

Consider:
 ☒ All Wines
 ☐ On-Hand Only

☐ High Consumption Rate
 ☒ Predicted Expiry Date
 ☐ Corked Wines

Analyze Corked Wines by...

☐ Closure
 ☐ Vintage

☐ Shipping Method
 ☐ Vendor

☒ Varietal
 ☐ Winery

Every-Day Wines

Max Score: 94
 # Btls: 1124
 Est Expiry Dt:

Reward-Day Wines

Min Score: 92
 Btls/Wk: 2

Special Occ. Wines

Min Score: 96
 Btls/Wk: 10

Total Bottles: 1781

Categorize Wines Based on:

☒ Rating Score
 ☐ Purchase Price

Sort By:

☒ Drink-Now Score
 ☐ Rating Score

☐ Purchase Price
 ☐ Winery

Print List <
 Pick a Wine for Me!

Filter By...

Color: Red

Varietal: All Varietals

Country: All Countries

Print Bottle Count by Winery & Vintage (sorted by winery)

Print Bottle Count by Winery & Vintage (sorted by bottles)

Close

Notes

The Predicted Expiry options lists wines by increasing date at which it is predicted the last bottle will be consumed. The dates are based on the number of bottles you currently have on-hand and the consumption rate of the wine since it was cellared.

The numbers in the second set of brackets are the number of bottles remaining of the number of bottles purchased.

Exhibit 34 illustrates the analysis of corked wines that can be performed in the Tool. To facilitate looking for patterns in the instances of corked wines, corked wines can be analyzed based on closure, shipping method, varietal, vintage, vendor, and winery.

EXHIBIT 34

Corked wines

Wine Analyses

Corked Analysis Results

[08.33%][1][09/12] Anonymous Winery | 2005 | Grenache Blend | Anonymous Wine |

Notes

The 'Corked Wine' option lists wines in declining order of rate of corked wines (measured in percentage of bottles purchased).
The number shown is the percentage of corked bottles.

Print Bottle Count by Winery & Vintage (sorted by winery)

Print Bottle Count by Winery & Vintage (sorted by bottles)

Analysis Options

☐ Watch List (drink-now wines)
☐ 'Consume-a-Bottle-By' Wines
☐ High Consumption Rate
☐ Predicted Expiry Date
☒ Corked Wines

Consider:

☒ All Wines
☐ On-Hand Only

Analyze Corked Wines by...

☐ Closure
☐ Vintage
☐ Shipping Method
☐ Vendor
☐ Varietal
☐ Winery

Every-Day Wines

Max Price: 47
Btls: 950
Est Expiry Dt:

Reward-Day Wines

Btls: 614
Btls/Wk: 2

Special Occ. Wines

Min Price: 85
Btls: 217
Btls/Yr: 10

Total Bottles:

1781

Categorize Wines Based on

☐ Rating Score
☒ Purchase Price

Sort By

☒ Drink-Now Score
☐ Rating Score
☐ Purchase Price
☐ Winery

Print List <

Pick a Wine for Me!

Filter By...

Color: Red
Varietal: All Varietals
Country: All Countries

Close

The Tool separates the wines in the cellar into three categories based on the rating score or the price, as discussed in the data section of the report. Every-Day wines, or wines for everyday consumption, would typically be the lowest rated and (most likely) the least expensive wines in the cellar. Reward-Day wines would be wines consumed on a special day of the week, such as a Friday evening. These wines would be rated higher and typically be more expensive than the Every-Day wines. Finally, there are the Special Occasion wines which are generally the most expensive wines in the cellar. The Tool allows cellar owners to determine how they would classify their wines into these categories. An exceptional cellar might have Every-Day wines rated 98 or lower, while the Special Occasion wines might be those with perfect scores (i.e., scores of 100). Other cellar owners might apply lower score cutoffs for what makes a Reward-Day or Special Occasion wine. Exhibits 35, 36, and 37 show lists of the cellar's Every-Day, Reward-Day, and Special Occasion wines. In this cellar, the Every-Day wines have prices up to and including \$47 per bottle, the Special Occasion wines have prices of \$85 per bottle and higher, and the Reward-Day wines fall between \$47 and \$85 per bottle. The Tool also offers various frameworks for ordering the wines in each category. The options are by Drink-Now score, by rating score, by purchase price, and by winery. By way of clarification, the Drink-Now score is a calculation that assigns a higher number to wines that are lower-rated, less expensive, single-vintage, and that are nearing the expiration of their peak drinking window. Wines that receive lower Drink-Now scores are those with higher rating scores, that are costlier, that are represented in the cellar by multiple vintages, and that have peak drinking windows extending further into the future.

EXHIBIT 35

A list of Every-Day wines

Wine Analyses

Wines Meeting the Criteria

[93] [\$24.94] [01/12] Rex Hill | 2009 | Pinot Noir | Willamette Valley Pinot Noir | 0.75 L

[92] [\$14.97] [01/24] Chateau Tanunda | 2008 | Syrah | Grand Barossa Shiraz | 0.75 L

[92] [\$15.68] [01/48] Pillar Box | 2008 | Shiraz | Reserve Shiraz | 0.75 L

[91] [\$17.91] [01/18] Fox Gordon | 2004 | Shiraz | Eight Undes Barossa Valley | 0.75 L

[92] [\$18.31] [01/12] Bodega Aster | 2009 | Tempranillo | Ribera del Duero Crianza | 0.75 L

[92] [\$13.98] [01/24] Bodegas Olarra | 2010 | Tempranillo | Rioja Cerro Añon Reserva | 0.75 L

[92] [\$13.99] [02/24] Tommasi | 2011 | Sangiovese & Cab S | Poggio Al Tufo Rompicollo | 0.75 L

[94] [\$30.15] [01/08] Yalumba | 2005 | Shiraz Viognier | Hand Picked Barossa Valley | 0.75 L

[90] [\$35.78] [01/02] Carlisle | 2011 | Syrah | Syrah, Sonoma Mountain, Steiner Vineyard | 0.75 L

[91] [\$14.15] [01/24] Thomas Goss | 2010 | Shiraz | Shiraz | 0.75 L

[93] [\$22.46] [01/24] Calera | 2010 | Pinot Noir | Pinot Noir Central Coast 35th Anniversary | 0.75 L

[92] [\$41.00] [02/04] Keep Wines | 2016 | Syrah | Syrah Napa Valley | 0.75 L

[90] [\$28.80] [03/04] Turley | 2019 | Cinsault | Bechthold Vineyard Cinsault | 0.75 L

[93] [\$19.01] [01/24] Marchesi de' Frescobaldi | 2007 | Cab S, Merlot, Cab F, Sangiovese | Tenuta di Castiglion Toscana Rosso | 0.75 L

[91] [\$23.85] [03/03] Keep Wines | 2017 | Ciliegiole | Ciliegiole, Ripken Vineyard | 0.75 L

[92] [\$17.50] [03/12] Château Puygauraud | 2005 | Merlot, Cab S, Malbec | Côtes de Francs | 0.75 L

[91] [\$23.70] [07/15] Bedrock Wine Co | 2018 | Syrah | Syrah California | 0.75 L

[96] [\$40.01] [02/12] Poggio il Castellare | 2004 | Brunello | Brunello di Montalcino | 0.75 L

[93] [\$19.99] [02/12] Vecchia Cantina di Montepulciano | 2006 | Sangiovese | Vino Nobile di Montepulciano Redi Argo et Non Bria | 0.75 L

[93] [\$31.80] [01/01] Lucien Barrot | 2005 | Chateaufeuf Du Pape | Chateaufeuf Du Pape | 0.75 L

[93] [\$19.93] [01/05] Bedrock Wine Co | 2015 | Zinfandel blend | Zinfandel Old Vine | 0.75 L

[92] [\$35.32] [01/01] Bedrock Wine Co | 2017 | Barbera | Barbera Shake Ridge Ranch | 0.75 L

[92] [\$35.68] [02/02] Carlisle | 2013 | Zinfandel | Zinfandel, Kirschenmann Vineyard | 0.75 L

[92] [\$31.71] [02/02] Sandlands Vineyards | 2018 | Cinsault | Lodi Cinsault | 0.75 L

[90] [\$33.01] [03/04] Halcón Vineyards | 2017 | Grenache (70), Mouvedre (20), Syrah (10) | Esquisto | 0.75 L

[93] [\$40.72] [01/01] Bedrock Wine Co | 2015 | Carignan | Carignan Under the Mountain Vineyard | 0.75 L

[92] [\$35.71] [01/02] Sandlands Vineyards | 2018 | Cinsault, Carignane, Zinfandel | Lodi Red Table Wine | 0.75 L

[91] [\$23.00] [03/06] Bedrock Wine Co | 2017 | Syrah | Syrah Coast to Foothills | 0.75 L

[92] [\$44.06] [01/01] Bedrock Wine Co | 2016 | Field blend | Beduccini Red Wine | 0.75 L

[90] [\$20.04] [03/05] Bedrock Wine Co | 2015 | Syrah | Syrah North Coast | 0.75 L

[90] [\$38.55] [04/04] Halcón Vineyards | 2017 | Syrah | Elevación | 0.75 L

[92] [\$38.72] [02/04] Halcón Vineyards | 2018 | Grenache | Grenache | 0.75 L

[92] [\$38.72] [02/04] Halcón Vineyards | 2018 | Mouvedre | Mouvedre | 0.75 L

[94] [\$15.11] [07/24] San Felice | 2016 | Sangiovese, Colorino and Pugnitello | Chianti Classico | 0.75 L

[92] [\$31.89] [01/02] Bedrock Wine Co | 2015 | Zinfandel blend | Zinfandel Schmidt Road Vineyard | 0.75 L

[91] [\$24.71] [01/01] Keep Wines | 2017 | Pinot Meunier | Pinot Meunier, Yount Mill Vineyard | 0.75 L

[92] [\$24.71] [01/01] Keep Wines | 2017 | Pinot Meunier | Pinot Meunier, Yount Mill Vineyard | 0.75 L

[94] [\$22.61] [15/24] Casaloste | 2015 | Sangiovese | Chianti Classico | 0.75 L

[88] [\$25.97] [01/04] Carlisle | 2011 | Zinfandel | Zinfandel, Sonoma County | 0.75 L

Analysis Options

☐ 'Watch List' (drink-now wines)
 ☐ 'Consume-a-Bottle-By' Wines

Consider:

☒ All Wines
 ☐ On-Hand Only

☐ High Consumption Rate
 ☐ Predicted Expiry Date
 ☐ Corked Wines

Analyze Corked Wines by...

☐ Closure
 ☐ Vintage
 ☐ Shipping Method
 ☐ Vendor
 ☒ Varietal
 ☐ Winery

Every-Day Wines

Max Price

47

Btls

950

Est Expiry Dt

Reward-Day Wines

Min Price

614

Btls/Wk

2

Special Occ. Wines

Min Price

85

217

10

Total Bottles:

1781

Categorize Wines Based on

☐ Rating Score
 ☒ Purchase Price

Sort By

☒ Drink-Now Score
 ☐ Rating Score
 ☐ Purchase Price
 ☐ Winery

Print List <

Pick a Wine for Me!

Filter By...

Color:

Red

Varietal

All Varietals

Country

All Countries

Notes

The 'Everyday Wines' are the lower scoring (or less-expensive) wines that you would consume on a regular basis. The list includes all the wines scoring up to and including the designated maximum score (or price).

'Drink-Now' scores are based on the rationale of drinking lower rated, less expensive, shorter-lived, single-vintage wines before higher rated, more expensive, longer lived, and multiple-vintage wines.

The numbers in the third set of brackets are the number of bottles remaining of the number of bottles purchased.

Print Bottle Count by Winery & Vintage (sorted by winery)

Print Bottle Count by Winery & Vintage (sorted by bottles)

Close

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27

A list of Reward-Day wines

Wine Analyses

Wines Meeting the Criteria

[92]	[\$50.71]	[01/01]	Sandlands Vineyards 2018 Merlot Lodi Cinsault 0.75 L
[93]	[\$48.62]	[02/03]	Carlisle 2012 Zinfandel Zinfandel, Napa Valley, Hayne Vineyard 0.75 L
[96]	[\$51.78]	[08/12]	Corte Pavone 2006 Brunello Brunello Di Montalcino 0.75 L
[96]	[\$60.93]	[01/03]	Bedrock Wine Co 2013 Syrah Syrah Well Exposition 0.75 L
[96]	[\$47.99]	[02/10]	San Filippo 2004 Brunello Le Lucere Brunello 0.75 L
[92]	[\$47.03]	[02/04]	Bedrock Wine Co 2015 Syrah Syrah Alder Springs 0.75 L
[95]	[\$82.78]	[02/03]	Cayuse Vineyards 2012 Syrah (95), Vignier (5) Walla Walla Valley Calloux Vineyard 0.75 L
[94]	[\$47.81]	[04/04]	Carlisle 2016 Zinfandel (82%), other (12%) Zinfandel, Russian River Valley, Carlisle Vineyard 0.75 L
[93]	[\$47.54]	[02/02]	Fazenda Pradio 2017 Merenzao (Trousseau) MRZ 0.75 L
[95]	[\$47.81]	[02/02]	Carlisle 2016 Zinfandel (96%), Mouvedre (2%), mixed (2%) Zinfandel, Sonoma Valley, Bedrock Vineyard
[97]	[\$51.59]	[03/06]	Prats & Symington 2011 Touriga Nacional & Touriga Franca Duoro Chryseia 0.75 L
[93]	[\$47.86]	[03/03]	Bedrock Wine Co 2018 Mataro, Zinfandel, and Cabernet Pffer Enz Vineyard Heritage 0.75 L
[93]	[\$48.00]	[02/06]	Domaine de la Janasse 2006 Chateaneuf Du Pape Chaupin 0.75 L
[93]	[\$48.71]	[03/03]	Bedrock Wine Co 2018 Field Blend Dolinsek Heritage3 0.75 L
[96]	[\$47.81]	[04/04]	Carlisle 2016 Zinfandel (96%), Carignan (4%) Zinfandel, Russian River Valley, Papera Ranch 0.75 L
[93]	[\$51.20]	[03/04]	Quivet Cellars 2018 Syrah Syrah Keneffick Ranch Vineyard 0.75 L
[94]	[\$47.03]	[03/04]	Carlisle 2014 Zinfandel Zinfandel, Russian River Valley, Saitone 0.75 L
[94]	[\$47.04]	[01/03]	Bedrock Wine Co 2015 Zinfandel blend Zinfandel Monte Rosso 0.75 L
[92]	[\$53.42]	[03/03]	Myriad Cellars 2018 Syrah Syrah Sangiacomo Whole Cluster 0.75 L
[92]	[\$48.28]	[02/02]	Bedrock Wine Co 2018 Mataro & Grenache Ode to Lucien 0.75 L
[93]	[\$53.20]	[02/02]	Quivet Cellars 2018 Syrah Syrah Keneffick Ranch Vineyard 100% Whole Cluster 0.75 L
[90]	[\$83.16]	[01/06]	Reynvaan Family Vineyards 2014 Syrah The Unnamed Syrah 0.75 L
[93]	[\$47.81]	[02/02]	Carlisle 2016 Zinfandel (90%), Petite Syrah (3%), mixed (7%) Zinfandel, Sonoma Valley, Rossi Ranch
[93]	[\$49.95]	[01/03]	Carlisle 2013 Zinfandel Zinfandel, Napa Valley, Hayne Vineyard 0.75 L
[95]	[\$59.99]	[10/12]	Two Hands 2012 Shiraz Bella's Garden Barossa Valley 0.75 L
[92]	[\$53.36]	[03/03]	Bedrock Wine Co 2016 Syrah Syrah Bien Nacido Vineyards X Block 0.75 L
[92]	[\$72.33]	[03/06]	Quivet Cellars 2016 Cabernet Sauvignon Napa Valley Cabernet Sauvignon 0.75 L
[93]	[\$53.46]	[03/03]	Bedrock Wine Co 2018 30 varietals Old Hill Ranch Heritage Wine 0.75 L
[93]	[\$50.54]	[03/03]	Bedrock Wine Co 2016 Syrah Syrah Sky Vineyard Mt. Veeder 0.75 L
[93]	[\$61.90]	[01/01]	Bedrock Wine Co 2018 Zinfandel Morgan's Wedding Cuvee 0.75 L
[92]	[\$51.42]	[01/03]	Myriad Cellars 2017 Syrah Syrah Sangiacomo 0.75 L
[92]	[\$55.52]	[01/01]	Bedrock Wine Co 2017 Zinfandel Zinfandel Sky Vineyard 0.75 L
[92]	[\$47.81]	[02/04]	Carlisle 2016 Syrah (55%), Mouvedre (45%) The Integral 0.75 L
[93]	[\$50.52]	[11/12]	Chateau Duhart Milon Rothschild 2005 Bordeaux blend Pauillac 0.75 L
[93]	[\$70.53]	[01/01]	Carlisle 2017 Pinot Noir Pinot Noir, Martella Vnyd 0.75 L
[90]	[\$47.25]	[01/02]	Carlisle 2011 Zinfandel Zinfandel, Russian River Valley, Carlisle Vineyard 0.75 L
[93]	[\$49.90]	[02/02]	Bedrock Wine Co 2017 Syrah Syrah Sky Vineyard Mt. Veeder 0.75 L
[93]	[\$64.00]	[01/03]	Rivers-Marie 2017 Pinot Noir Platt Vineyard Pinot Noir 0.75 L
[93]	[\$47.86]	[03/03]	Bedrock Wine Co 2018 Grenache, Cinsault, Mataro Gambrel's of the Sky Grenache 0.75 L

Notes

The 'Reward-Day Wines' are the middle scoring (or moderately expensive) wines that you would consume on your 'reward' day of the week (e.g., Friday). The list includes all the wines scoring higher the maximum score (or price) for Everyday wines and below the minimum score (or price) for Special Occasion wines.

'Drink-Now' scores are based on the rationale of drinking lower rated, less expensive, shorter-lived, single-vintage wines before higher rated, more expensive, longer lived, and multiple-vintage wines.

The numbers in the third set of brackets are the number of bottles remaining of the number of bottles purchased.

Print Bottle Count by Winery & Vintage (sorted by winery) Print Bottle Count by Winery & Vintage (sorted by bottles)

Analysis Options

☐ 'Watch List' (drink-now wines)

☐ 'Consume-a-Bottle-By' Wines

☐ High Consumption Rate ☒ All Wines

☐ Predicted Expiry Date ☐ On-Hand Only

☐ Corked Wines

Analyze Corked Wines by...

☐ Closure ☐ Vintage

☐ Shipping Method ☐ Vendor

☒ Varietal ☐ Winery

Every- Day Wines Max Price: 47 # Btls: 950 Est Expiry Dt: []

Reward- Day Wines Min Price: [] Btls/Wk: 2

Special Occ. Wines Min Price: 85 Btls/Yr: 10

Total Bottles: 1781

Categorize Wines Based on

☐ Rating Score ☒ Purchase Price

Sort By

☒ Drink-Now Score ☐ Rating Score

☐ Purchase Price ☐ Winery

Print List < Pick a Wine for Me!

Filter By...

Color: Red

Varietal: All Varietals

Country: All Countries

Close

EXHIBIT 37

A list of Special Occasion wines

Wine Analyses

Wines Meeting the Criteria

[95] [\$145.80] [1/3] Horsepower Vineyards | 2013 | Syrah | The Tribe Vineyard Syrah | 0.75 L

[92] [\$105.00] [1/1] Bedrock Wine Co | 2013 | Syrah | Syrah Bedrock OB | 1.5 L

[94] [\$93.06] [3/3] No Girls Wines | 2016 | Grenache | La Piedad Vineyard Grenache | 0.75 L

[92] [\$103.98] [3/4] Torrin Vineyard | 2016 | 39% Syrah, 27% Tannat, 23% Cab S, 11% Grenache | Tsundered Red Blend | 0.75 L

[92] [\$103.98] [2/2] Torrin Vineyard | 2016 | Syrah | Akasha Syrah | 0.75 L

[97] [\$249.79] [1/1] Paul Jaboulet | 2001 | Syrah | Hermitage La Chapelle | 1.5 L

[92] [\$89.89] [3/3] Cayuse Vineyards | 2014 | Syrah (95) & Viognier (5) | Walla Walla Valley Enchamberlin Vineyard | 0.75 L

[92] [\$90.17] [3/3] Cayuse Vineyards | 2016 | Syrah | Walla Walla Valley En Cerise Vineyard | 0.75 L

[94] [\$90.17] [3/3] Cayuse Vineyards | 2015 | Syrah (95) & Viognier (5) | Walla Walla Valley Enchamberlin Vineyard | 0.75 L

[94] [\$98.85] [3/3] Cayuse Vineyards | 2016 | Syrah (95) & Viognier (5) | Walla Walla Valley Enchamberlin Vineyard | 0.75 L

[93] [\$98.85] [3/3] Cayuse Vineyards | 2017 | Syrah | Walla Walla Valley En Cerise Vineyard | 0.75 L

[92] [\$128.75] [2/2] Bedlyn Cellars | 2016 | Cabernet Sauvignon | Missouri Hopper Reserve Cabernet Sauvignon | 0.75 L

[93] [\$86.73] [3/3] Rivers-Marie | 2018 | Pinot Noir | Summa Old Vines Pinot Noir | 0.75 L

[92] [\$132.64] [1/2] Bedrock Wine Co | 2017 | Syrah | Syrah Bien Nacido Vineyard X Block | 1.5 L

[92] [\$98.75] [2/2] Bedlyn Cellars | 2016 | Cabernet Sauvignon | Moulds Vineyard Reserve Cabernet Sauvignon | 0.75 L

[93] [\$132.84] [1/1] Bedrock Wine Co | 2018 | 30 varietals | Old Hill Ranch Heritage Wine | 1.5 L

[93] [\$109.65] [3/3] Cayuse Vineyards | 2016 | Syrah | Walla Walla Valley Armada Vineyard Syrah | 0.75 L

[92] [\$102.00] [1/2] Bedlyn Cellars | 2015 | Cabernet Sauvignon | Moulds Vineyard Cabernet Sauvignon | 0.75 L

[92] [\$102.00] [2/2] Bedlyn Cellars | 2017 | Cabernet Sauvignon | Moulds Vineyard Reserve Cabernet Sauvignon | 0.75 L

[91] [\$206.78] [2/2] Cayuse Vineyards | 2013 | Syrah | Wallah Wallah Special #5 Syrah | 1.5 L

[94] [\$225.72] [1/1] Cayuse Vineyards | 2014 | Syrah | Wallah Wallah Special #6 Syrah | 1.5 L

[93] [\$193.62] [1/2] Cayuse Vineyards | 2012 | Syrah | Wallah Wallah Special #4 Syrah | 1.5 L

[93] [\$213.90] [1/1] Cayuse Vineyards | 2016 | Syrah | Wallah Wallah Special #10 Syrah | 1.5 L

[93] [\$92.52] [2/3] Cayuse Vineyards | 2012 | Grenache | God Only Knows Grenache | 0.75 L

[94] [\$93.60] [1/3] Reynvaan Family Vineyards | 2012 | Syrah | Stonessence | 0.75 L

[94] [\$87.34] [4/6] Reynvaan Family Vineyards | 2015 | Syrah | In the Hills | 0.75 L

[92] [\$89.64] [1/1] Bedrock Wine Co | 2018 | Field blend | Evangelo Vineyard Heritage | 1.5 L

[94] [\$89.44] [1/1] Bedrock Wine Co | 2017 | Field blend | Evangelo Vineyard Heritage | 1.5 L

[92] [\$86.40] [3/3] Reynvaan Family Vineyards | 2016 | Syrah | In the Hills | 0.75 L

[93] [\$90.17] [3/3] Cayuse Vineyards | 2016 | Syrah (95) & Viognier (5) | Walla Walla Valley Cailloux Vineyard | 0.75 L

[95] [\$89.89] [2/3] Cayuse Vineyards | 2014 | Syrah (95) & Viognier (5) | Walla Walla Valley Cailloux Vineyard | 0.75 L

[95] [\$91.80] [2/3] Reynvaan Family Vineyards | 2013 | Syrah | The Contender | 0.75 L

[94] [\$138.33] [1/1] Thomas | 2016 | Pinot Noir | Dundee Hills | 1.5 L

[92] [\$100.69] [2/3] Cayuse Vineyards | 2013 | Grenache | God Only Knows Grenache | 0.75 L

[93] [\$98.85] [3/3] Cayuse Vineyards | 2017 | Syrah (95) & Viognier (5) | Walla Walla Valley Cailloux Vineyard | 0.75 L

[93] [\$133.33] [1/1] Thomas | 2015 | Pinot Noir | Pinot Noir, Dundee Hills | 1.5 L

[95] [\$92.16] [1/3] No Girls Wines | 2012 | Grenache | La Piedad Vineyard Grenache | 0.75 L

[95] [\$113.40] [3/6] Reynvaan Family Vineyards | 2013 | Syrah | Stonessence | 0.75 L

[92] [\$93.96] [4/6] Reynvaan Family Vineyards | 2014 | Syrah | The Contender | 0.75 L

Notes

The 'Special Occasion Wines' are the highest scoring (or most-expensive) wines that you would consume on very special occasions. The list includes all the wines scoring at or above the designated minimum score (or price).

'Drink-Now' scores are based on the rationale of drinking lower rated, less expensive, shorter-lived, single-vintage wines before higher rated, more expensive, longer lived, and multiple-vintage wines.

The numbers in the third set of brackets are the number of bottles remaining of the number of bottles purchased.

Print Bottle Count by Winery & Vintage (sorted by winery) | Print Bottle Count by Winery & Vintage (sorted by bottles)

Analysis Options

☐ Watch List (drink-now wines)

☐ Consume-a-Bottle-By Wines

☐ High Consumption Rate

☐ Predicted Expiry Date

☐ Corked Wines

Analyze Corked Wines by...

☐ Closure

☐ Shipping Method

☐ Varietal

☐ Vintage

☐ Vendor

☐ Winery

Every- Day Wines

Max Price: 47

Btls: 950

Est Expiry Dt:

Reward- Day Wines

614

Btls/Wk: 2

Special Occ. Wines

Min Price: 85

217

Total Bottles: 1781

Btls/Yr: 10

Categorize Wines Based on

☐ Rating Score

☒ Purchase Price

Sort By

☒ Drink-Now Score

☐ Rating Score

☐ Purchase Price

☐ Winery

Print List <

Pick a Wine for Me!

Filter By...

Color: Red

Varietal: All Varietals

Country: All Countries

Close

When the Wine Analysis form illustrated in Exhibits 30-37 is open, the list of the wines can be printed by clicking the “Print List <” button. Exhibit 38 illustrates a portion of the report that would be printed for the Red Every-Day wines. There are two Bottle-Count reports that can be printed from the Wine Analysis form illustrated in Exhibits 30-37, which are accessible from the two buttons at the bottom of form, as shown in Exhibit 39. Exhibit 40 shows an excerpt from the report created by clicking the “Print Bottle Count by Winery & Vintage (sorted by winery)” button.

EXHIBIT 38

An excerpt from the Print List function using Red Every-Day wines [new in Version 4]

	A	B	C	D	E	F	G	H
1						Red Every-Day Wines		
2	Score	Price per Btl	Btls On-Hand	Winery	Vintage	Varietal Type	Name	Btl Sz (L)
3	92	\$14.97	02/24	Chateau Tanunda	2008	Syrah	Grand Barossa Shiraz	0.75
4	93	\$24.71	01/12	Condado de Haza	2005	Tempranillo Blend	Ribera del Duero Crianza	0.75
5	92	\$15.68	02/48	Pillar Box	2008	Shiraz	Reserve Shiraz	0.75
6	93	\$24.94	01/12	Rex Hill	2009	Pinot Noir	Willamette Valley Pinot Noir	0.75
7	91	\$17.91	01/18	Fox Gordon	2004	Shiraz	Eight Uncles Barossa Valley	0.75
8	92	\$13.98	01/24	Bodegas Olarra	2010	Tempranillo	Rioja Cerro Alon Reserva	0.75
9	92	\$13.99	02/24	Tommasi	2011	Sangiovese & Cab S	Poggio Al Tufo Rompicollo	0.75
10	93	\$22.82	01/12	Vinosia	2004	Aglianico	Taurasi	0.75
11	92	\$18.31	01/12	Bodega Aster	2009	Tempranillo	Ribera del Duero Crianza	0.75
12	93	\$24.41	01/12	Glen Eldon	2003	Shiraz	Dry Bore Barossa	0.75
13	91	\$14.15	01/24	Thomas Goss	2010	Shiraz	Shiraz	0.75
14	94	\$27.63	02/24	La Rioja Alta	2004	Tempranillo	Rioja Viña Ardanza Reserva	0.75
15	93	\$22.46	01/24	Calera	2010	Pinot Noir	Pinot Noir Central Coast 35th Anniversary	0.75
16	94	\$30.15	01/08	Yalumba	2005	Shiraz Viognier	Hand Picked Barossa Valley	0.75
17	93	\$19.24	01/24	Vina Herminia	2009	Tempranillo	Rioja Excelsus	0.75
18	90	\$32.29	01/01	Sandlands Vineyards	2017	Trousseau	Sonoma Coast Trousseau	0.75
19	90	\$35.78	01/02	Carlisle	2011	Syrah	Syrah, Sonoma Mountain, Steiner Vineyard	0.75
20	93	\$19.01	01/24	Marchesi de Frescobaldi	2007	Cab S, Merlot, Cab F, Sangiovese	Tenuta di Castiglioni Toscana Rosso	0.75
21	93	\$19.93	01/05	Bedrock Wine Co	2015	Zinfandel blend	Zinfandel Old Vine	0.75
22	92	\$17.50	04/12	Chateau Puygerraud	2005	Merlot, Cab S, Malbec	Côtes de Francs	0.75
23	92	\$41.00	02/04	Keep Wines	2016	Syrah	Syrah Napa Valley	0.75
24	91	\$23.08	12/12	Bedrock Wine Co	2018	Syrah	Syrah California	0.75

EXHIBIT 39

The printable reports accessible at the bottom of the Wine Analysis form [new in Version 4]

Print Bottle Count by Winery & Vintage (sorted by winery)	Print Bottle Count by Winery & Vintage (sorted by bottles)
---	--

EXHIBIT 40

An excerpt from the printable “Bottle Count by Winery & Vintage (sorted by winery)” report [new in Version 4]

Bottle Count by Winery and Vintage		
Winery	Vintage	Bts On-Hand
Albino Rocca	2007	14
Altesino	2012	12
Anfinori	2015	29
	2016	2
	Total	31
Apsara Cellars	2016	4
Argiano	2009	4
Azilio Ghisolfi	2012	12
Becklyn Cellars	2015	5
	2016	10
	2017	8
	Total	23
Bedrock Wine Co	2013	5
	2014	11
	2015	59
	2016	55
	2017	55
	2018	24
	Total	209
Benoit Gaufer	2016	16
Bloomer Creek Vineyard	2014	2
	2015	2
	2016	11
	Total	15
-----	----	-

In addition to the form-based lists that the Tool includes (shown in Exhibits 30-40), the Tool also includes two worksheets that provide actionable information and that contain the main data repositories of the Tool. The first is the “Purchases” worksheet, which lists all the wine purchases that have inventory on hand or that have yet to be delivered. The second is the “Inventory” worksheet, which serves to aggregate multiple purchases of the same wine and to perform calculations related to each wine’s peak drinking window. Neither of these worksheets can be edited directly. To ensure the integrity of the worksheets, data can only be added to or removed from these worksheets using the Tool’s interface forms. Both worksheets contain formatting and sorting capabilities that provide additional information. Exhibit 41 shows the sorting options for the Tool’s “Purchases” worksheet in the Tool. For example, sorting the Tool’s “Purchases” worksheet by “Rating Score” reorders the wines by declining rating score and ascending price, which allows the cellar owner to easily see what they paid for wines of a specific rating score.

EXHIBIT 41

Sorting options for wines with on-hand inventory (found in the “Purchases” worksheet)

Sort by Rating	Sort by \$	Sort by Cellar Date ^	Sort by Cellar Date	Sort by Winery	Sort By Varietal	Sort by Vintage
----------------	------------	-----------------------	---------------------	----------------	------------------	-----------------

Sorting and printing options for the “Inventory” worksheet of the Tool are illustrated in Exhibit 42. This worksheet also color codes two fields: the on-hand quantities, where wines with fewer than four bottles on hand are flagged; and the “drink-through” year (i.e., the end of the peak drinking window), which are color coded for the current year and the next thirteen years. At the start of each calendar year, the Tool automatically updates the color coding of the drink-through years. As an example, selecting “Sort by Drink-Through Year” will show the wines organized by drink-through year and the color-coding applied to each year. By selecting the different sorting options, the inventory sheet can be used much like the lists in Exhibits 30 through 40 for guiding one’s selection of wines to consume or promote and for decisions about purchasing additional wine.

EXHIBIT 42

Inventory sorting options [new Vertical sort option in Version 4]

Show...		Sort By...	
<input type="radio"/> All		<input type="radio"/> Cellar Location	<input type="radio"/> Purchase Price
<input type="radio"/> Only Long-Hold		<input type="radio"/> Country	<input type="radio"/> Rating
<input checked="" type="radio"/> Only Non Long-Hold		<input type="radio"/> Drink Days	<input type="radio"/> Varietal
Hide Zero Inventory		<input checked="" type="radio"/> Drink Now	<input type="radio"/> Vertical
Print One Page		<input type="radio"/> Drink-Through	<input type="radio"/> Vintage
Print All Pages		<input type="radio"/> Inventory	<input type="radio"/> Winery

DATA REQUIREMENTS

The basic requirement for managing a wine cellar using the Tool is straightforward: being disciplined with respect to recording wine inflows (purchases and gifts received) and outflow (consumption, sales, and gifts given). As I mentioned earlier, it can also be beneficial to occasionally perform a physical inventory count, to reconcile the electronic tally with the actual counts of wine on hand. With the Tool, the ongoing data recording efforts are minimal. Data recording will be relatively easy when you are starting a cellar from scratch, but I acknowledge that inputting the data for a well-established cellar will take time (or someone's assistance), depending on the size of the cellar. The sooner the status of the spreadsheet matches the cellar status, the sooner that you can start using the analyses to guide consumption and other decisions.

In addition to the basic data requirements, the Tool also allows you to record tasting notes for each wine purchased. In addition, you may decide to change the drink-from or drink-through dates (i.e., the peak drinking window for a wine) based on your sensory analysis of how the wine is drinking, in which the Tool automatically recalculates all the affected analyses.

As noted earlier, to ensure the integrity of the Tool, you cannot enter or edit data directly into any of the worksheets—all changes are made via the forms accessible from the Tool's "Switchboard" worksheet. I'll explain each of the functions illustrated in Exhibit 43.

EXHIBIT 43

Worksheet for access to the interface forms [new options in Version 4]

Wine Management Actions
Add New Wine Purchase
Update Wine Information
View Wine Analyses
Update Shopping List
Update Repeating Purchases
Cellar Planning

Data Maintenance Actions
Maintain Other Data
Set Scoring Options
Export Data
Import Data

Exhibits 44 through 47 display the interfaces in the Tool for entering and modifying data. Exhibit 44 illustrates the form for recording a new wine purchase. Since the drop-down lists “remember” data that have already been entered, you won’t have to repeat certain information for each wine purchase. Wines can be purchased without a “cellared date” being recorded, as would be the case for a wine purchased as a future⁶. The cellared date can be entered when the wine is received, via the form shown in Exhibit 44. Whether the cellar date is filled in automatically when the form is opened depends on whether you specify, on the main “Switchboard” worksheet, whether most of your wine purchases are made in-person or by orders. If the purchases are in person, the cellared date is automatically completed as the current date, whereas if the purchases are by orders, then the cellared date is left blank. Version 4 allows wines to have three special designations and a Consume-a-Bottle-By date. Exhibit 31 showed the analysis related to the Consume-a-Bottle-By wines.

6 A future is a wine paid for well in advance of when it is available. Futures are very common for classified-growth Bordeaux wines.

EXHIBIT 44

Form for entering a wine purchase [Version 4 includes a third Special Designation and a Consume-a-Bottle-By date]

Add a Wine [X]

Producer/Winery	Country	Hemisphere	Wine Name	Vintage
Region	Exact Origin	Btl Size (L)	Closure	
Detailed Varietal Info	Varietal Category	Color		
Custom Category 1	Custom Category 2	WS Top 100	Custom Data 2	
Score 1	Rating Source 1	Score 2	Rating Source 2	Score 3
Purchase Price	Number of Bottles	Purchased	Cellared	Purchased From
	12	12/13/2019		Shipping Method
Price is...	<input type="checkbox"/> Long-Hold	From	Through	Special Designation 1
<input type="radio"/> per Bottle	<input checked="" type="checkbox"/> Include Price	Drink: 2019	2019	Special Designation 2
<input checked="" type="radio"/> for Entire Purchase	<input checked="" type="checkbox"/> Include Score	Drink a Bottle by:		Special Designation 3
Notes				Location in Cellar
Please enter the data for the new wine purchase. Click the 'Add Wine Purchase' button to record the purchase.				
Add Wine Purchase				Close

Other changes to a wine are recorded via the form shown in Exhibit 45, which is accessed by clicking the “Update Wine Information” button shown in Exhibit 43. Once a wine has been selected, you can view, add to, or modify the tasting notes by clicking the “Show Tasting Notes” button. When the on-hand quantity of a purchased wine falls to zero, the wine is removed from the Tool’s “Purchases” worksheet and archived in the “Fully Consumed” worksheet.

EXHIBIT 45

Form for modifying information regarding a wine [the third Special Designation and the Consume-a-Bottle-By date are new in Version 4]

Wine Maintenance

Double-Click to Select the Desired Wine

Apsara Cellars	Shiraz/Syrah	Syrah, Las Madres Vineyard	2015	0.75 L	07-26-19	Vendor 80	6 of 6
Apsara Cellars	Shiraz/Syrah	Syrah, Las Madres Vineyard, Whole Clusters	2015	0.75 L	07-26-19	Vendor 80	1 of 1
Beddyn Cellars	Cab S	Napa Valley Cabernet Sauvignon	2017	0.75 L	06-04-19	Vendor 80	4 of 4
Carlisle	Cab S	Cabernet Sauvignon, Montecillo Vinyd	2017	0.75 L	10-14-19	Vendor 13	2 of 2
Carlisle	Gewürztraminer Blend	Compagni Portis	2017	0.75 L	01-17-19	Vendor 13	2 of 2
Carlisle	Grenache	Grenache, Rossi Ranch	2016	0.75 L	07-23-18	Vendor 13	3 of 3
Carlisle	Grenache	Grenache, Rossi Ranch	2017	0.75 L	07-17-19	Vendor 13	3 of 3
Carlisle	Mourvedre Blend	Two Acres, Russian River Vly, Red	2016	0.75 L	07-23-18	Vendor 13	2 of 2
Carlisle	Petite Sirah	Petite Sirah, Palisades Vineyard	2016	0.75 L	01-18-18	Vendor 13	3 of 4
Carlisle	Petite Sirah	Petite Sirah, Sonoma County	2017	0.75 L	07-17-19	Vendor 13	3 of 3
Carlisle	Pinot Noir	Pinot Noir, Martella Vnyd	2017	0.75 L	10-14-19	Vendor 13	1 of 1
Carlisle	Shiraz/Syrah Blend	The Integral	2015	0.75 L	07-18-17	Vendor 13	2 of 2
Carlisle	Shiraz/Syrah Blend	The Integral	2016	0.75 L	07-23-18	Vendor 13	2 of 2
Carlisle	Shiraz/Syrah Blend	The Integral	2017	0.75 L	07-17-19	Vendor 13	3 of 3
Carlisle	Shiraz/Syrah	Syrah, Paso Robles, James Berry Vineyard	2016	0.75 L	07-23-18	Vendor 13	2 of 2
Carlisle	Shiraz/Syrah	Syrah, Russian River Valley Papa's Block	2017	0.75 L	01-17-19	Vendor 13	3 of 3
Carlisle	Shiraz/Syrah	Syrah, Santa Lucia Highlands, Rosella's VY	2012	0.75 L	07-17-19	Vendor 13	2 of 2
Carlisle	Shiraz/Syrah	Syrah, Santa Lucia Highlands, Rosella's VY	2015	0.75 L	07-18-17	Vendor 13	3 of 3
Carlisle	Shiraz/Syrah	Syrah, Santa Lucia Highlands, Rosella's VY	2016	0.75 L	07-23-18	Vendor 13	3 of 3
Carlisle	Shiraz/Syrah	Syrah, Sonoma County	2015	0.75 L	01-27-17	Vendor 13	3 of 3
Carlisle	Shiraz/Syrah	Syrah, Sonoma County	2017	0.75 L	01-17-19	Vendor 13	2 of 2
Carlisle	Zinfandel	Zinfandel, Mendocino Ridge, DuPratt VYs	2016	0.75 L	01-18-18	Vendor 13	3 of 3
Carlisle	Zinfandel	Zinfandel, Mendocino Ridge, DuPratt VYs	2017	0.75 L	07-17-19	Vendor 13	3 of 3
Carlisle	Zinfandel	Zinfandel, Russian River Valley, Carlisle Vineyard	2015	0.75 L	07-18-17	Vendor 13	6 of 6
Carlisle	Zinfandel	Zinfandel, Russian River Valley, Limerick Lane	2016	0.75 L	01-18-18	Vendor 13	2 of 2
Carlisle	Zinfandel	Zinfandel, Russian River Valley, Limerick Lane	2017	0.75 L	01-17-19	Vendor 13	2 of 2
Carlisle	Zinfandel	Zinfandel, Russian River Valley, Mancini Ranch Vyd	2015	0.75 L	01-27-17	Vendor 13	3 of 3
Carlisle	Zinfandel	Zinfandel, Russian River Valley, Montafi Vineyard	2016	0.75 L	01-18-18	Vendor 13	4 of 4
Carlisle	Zinfandel	Zinfandel, Russian River Valley, Montafi Vineyard	2017	0.75 L	01-17-19	Vendor 13	4 of 4
Carlisle	Zinfandel	Zinfandel, Russian River Valley, Papera Ranch	2015	0.75 L	07-18-17	Vendor 13	6 of 6
Carlisle	Zinfandel	Zinfandel, Russian River Valley, Piner-Olivet Ranches	2016	0.75 L	01-18-18	Vendor 13	2 of 2
Carlisle	Zinfandel	Zinfandel, Sonoma Valley, Bedrock Vineyard	2013	0.75 L	07-17-19	Vendor 13	3 of 3
Carlisle	Zinfandel	Zinfandel, Sonoma Valley, Bedrock Vineyard	2015	0.75 L	07-18-17	Vendor 13	2 of 2
Carlisle	Zinfandel	Zinfandel, Sonoma Valley, Pagani VY	2015	0.75 L	07-18-17	Vendor 13	2 of 2
Carlisle	Zinfandel	Zinfandel, Sonoma Valley, Pagani VY	2016	0.75 L	01-18-18	Vendor 13	3 of 3
Carlisle	Zinfandel	Zinfandel, Sonoma Valley, Pagani VY	2017	0.75 L	01-17-19	Vendor 13	4 of 4
Carlisle	Zinfandel	Zinfandel, Sonoma Valley, Rossi Ranch	2017	0.75 L	07-17-19	Vendor 13	3 of 3
Carpinetto	Sangiovese	Vino Nobile di Montepulciano Riserva	2013	0.75 L	08-26-18	Vendor 64	11 of 12
Casaloste	Sangiovese	Chianti Classico	2015	0.75 L	06-05-18	Vendor 83	12 of 12
Castellare di Castellina	Sangiovese Blend	Chianti Classico	2017	0.75 L	10-23-19	Vendor 22	12 of 12
Castello Di Bolgheri	Cab S Blend	Bolgheri Varvara	2016	0.75 L	11-22-18	Vendor 22	11 of 12
Cayuse Vineyards	Grenache	God Only Knows Grenache	2011	0.75 L	10-18-13	Vendor 14	1 of 3
Cayuse Vineyards	Grenache	God Only Knows Grenache	2012	0.75 L	09-03-14	Vendor 14	2 of 3
Cayuse Vineyards	Grenache	God Only Knows Grenache	2015	0.75 L	11-01-17	Vendor 14	3 of 3
Cayuse Vineyards	Grenache	God Only Knows Grenache	2016	0.75 L	11-07-19	Vendor 14	3 of 3
Cayuse Vineyards	Shiraz/Syrah Blend	Walla Walla Valley Calloux Vineyard	2013	0.75 L	09-03-14	Vendor 14	2 of 2

Filter Wines, Based on Inventory

☐ All Wines ☐ Wines with Zero (0) Inventory ☒ Wines with Inventory On-hand

Notes

Double-click a wine to load its information. Click the 'Save Changes' button to save any changes you make.

Search

☐ Tasting Notes Exist ☐ Long-Hold ☐ Include: ☒ Price ☒ Score

Winery / Producer: Carlisle

Country: US

Wine: Zinfandel, Russian River Valley, Papera Ranch

Region: Russian River Valley

Exact Origin: Papera Ranch

Vintage: 2015 Bottle Size (L): 0.75

Detailed Varietal Info: Zinfandel

Varietal Category: Zinfandel

Color: Red Closure: Cork (Natural)

Purchase Cost/Btl: \$47.05 Current Cost/Btl: \$46.98

Date Purchased: 7/18/2017 Date Celled: 11/10/2017

Drink Next By: DNB Recorded: Drink From: Drink Through: 2024

Number of Bottles

Purchased: 6 Corked: 0 On-Hand: 6

Custom Cat 1: Custom Cat 2:

Custom Data 1: Custom Data 2:

Score: Rating Source:

Source 1: 94 Rater 2: Source 2: Source 3:

Purchased From: Vendor 13

Shipping Method:

Special Designation 1: Carlisle

Special Designation 2: Special Designation 3:

Location in Cellar:

When tasting notes exist for a wine, the “Tasting Notes Exist” box illustrated in Exhibit 45 will be checked. Clicking the “Show Tasting Notes” button alters the form to show any tasting notes that have been defined, as shown in Exhibit 46. You can also add, edit, or delete tasting notes from this view. Clicking the “Hide Tasting Notes” button returns the view to that shown in Exhibit 45.

EXHIBIT 46

The tasting notes section of the Wine Maintenance form

The screenshot displays the 'Wine Maintenance' form. On the left, a large text area contains a tasting note: '[12/18/2019] Developing nicely. Red currant, cherry, and floral notes on the nose and palate. Excellent tannin structure and acidity. Balanced. Elegant. Classic Barbaresco.' Above this area is the instruction 'Double-Click to Select the Desired Tasting Note'. To the right of the text area is a detailed form for wine information, including fields for Winery/Producer (Unnamed Winery), Country (IT), Wine (Barbaresco), Region, Exact Origin, Vintage (2007), Bottle Size (0.75), Detailed Varietal Info (Nebbiolo), Varietal Category (Nebbiolo), Color (Red), Closure (Cork (TBD)), Purchase Cost/Btl (\$34.63), Current Cost/Btl (\$34.63), Date Purchased (1/26/2011), Date Cellared (1/28/2011), Drink Next By (1/1/2020), DNB Recorded (11/15/2019), Drink From, Drink Through (2025), and Number of Bottles (Purchased: 12, Corked: 0, On-Hand: 7). Below these fields are Custom Cat 1, Custom Cat 2, and WS Top 100. At the bottom left, a 'Notes' section contains instructions: 'Double-click to edit an existing tasting note. Click the 'Add Tasting Note' button to record the note. Click the 'Hide Tasting Notes' button to return to the list of wines.' To the right of the notes is a search bar and a checkbox labeled 'Tasting Notes Exist' which is checked. Below the checkbox are buttons for '< Edit Tasting Note', '< Delete Tasting Note', and 'Add Tasting Note >'. On the far right, there is a 'Tasting Notes' section with a 'Tasting Date' field set to '12/19/2019' and a large text area for the note.

Another interface form in the Tool is for modifying other data items, such as the lists of producers, wineries, or vendors, which is accessed via the “Maintain Other Data” button shown in Exhibit 43 and found on the Tool’s “Switchboard” worksheet. Exhibit 47 displays this form for the sample cellar. By double-clicking on a data item, the Tool displays all the wines that match that item. If you choose to delete a data item, the data field is reset as blank for all the selected wines though the wines themselves are not deleted.

EXHIBIT 47

Form for modifying other data items [Bottles on Hand and Verticals are new in Version 4]

Data Maintenance

Double-Click the Desired Item

1 [129 wines]

2 [142 wines]

3 [117 wines]

4 [43 wines]

5 [22 wines]

6 [37 wines]

7 [9 wines]

8 [6 wines]

9 [6 wines]

10 [12 wines]

11 [17 wines]

12 [12 wines]

13 [0 wines]

14 [1 wine]

15 [0 wines]

16 [0 wines]

17 [2 wines]

18 [0 wines]

19 [1 wine]

20 [0 wines]

21 [0 wines]

22 [0 wines]

23 [1 wine]

Select the Desired Data Element

☐ Bottle Sizes

☒ Bottles on Hand

☐ Colors

☐ Closures

☐ Countries

☐ Exact Origins

☐ Rating Sources

☐ Regions

☐ Special Designations

☐ Shipping Methods

☐ Varietal Types

☐ Vendors

☐ Verticals

☐ Vintages

☐ Wineries / Producers

☐ Custom Category 1

☐ Custom Category 2

Add Item

< Edit

< Delete

Notes

Select one of the options to the left, which will then list all of the instances of that item. If you double-click an item in the list, you will then see the wines that match that item.

Wines Matching the Data Element

Carlisle | 2015 | Zinfandel | Zinfandel, Russian River Valley, Papera Ranch | 0.75 L [10] [\$46.98]

Chateau Clos de la Cure | 2005 | Bordeaux blend | St. Emilion Grand Cru | 0.75 L [10] [\$22.07]

Chateau Malmaison | 2005 | Bordeaux blend | Moulis | 0.75 L [10] [\$26.88]

Chateau Marquis d'Alesme-Becker | 2005 | Bordeaux blend | Margaux | 0.75 L [10] [\$28.99]

Clos du Mont-Olivet | 2005 | Chateaneuf Du Pape | Reserve Auguste Favier | 0.75 L [10] [\$29.25]

Domaine Saint Prefert | 2005 | Chateaneuf Du Pape | Reserve Auguste Favier | 0.75 L [10] [\$41.91]

Domaine des Baumard | 2005 | Chenin Blanc | Quarts de Chaume | 0.75 L [10] [\$66.30]

Giovanni Corino | 2007 | Nebbiolo | Barolo | 0.75 L [10] [\$38.99]

Massolino | 2009 | Nebbiolo | Barolo | 0.75 L [10] [\$39.99]

Nozzole | 2015 | Sangiovese | Chianti Classico Riserva | 0.75 L [10] [\$19.14]

Punset | 2007 | Nebbiolo | Barbaresco | 0.75 L [10] [\$38.32]

Schiavenza | 2008 | Nebbiolo | Barolo Serralunga | 0.75 L [10] [\$37.99]

Close

The Scoring Options interface form in the Tool is accessed via the “Set Scoring Options” button shown in Exhibit 43 and found on the Tool’s “Switchboard” worksheet. Clicking this button brings up the form shown in Exhibit 48. This form allows you to specify how to report rating scores for wines that have multiple ratings, for the variety of rating score-related analyses. As an example, you can have the scores averaged, or select the rating score based on a prioritized order of the rating sources.

EXHIBIT 48

Setting the scoring options

Reporting Scores for Wines with Multiple Ratings [X]

☐ Use Highest Rating

☐ Use Average Rating

☒ Use Priority Order

Priority 1: [Personal]

Priority 2: [Famous Rating Source 1]

Priority 3: [Famous Rating Source 2]

Notes

This is where you specify how the tool reports the score of wines that have multiple ratings. Selecting the "Highest" option reports the highest of the rating scores for each wine. Selecting the "Average" option reports the average of all the ratings. Selecting the "Priority Order" option allows you to specify a preferred order from among the different rating sources in your data. If it exists, the Priority 1 rating is reported; otherwise, the Priority 2 rating is used, if it exists. If a wine is not rated by any of the three prioritized sources, then the average of all other ratings are reported. After selecting your desired option, click the 'Save' button to update the wine scores, based on your choice.

[Save] [Close]

Another action accessible from the Tool’s “Switchboard” worksheet is the ability to export data (see Exhibit 43). Selecting this action will export the spreadsheet data to a file named “WineCellarData.txt,” which will appear on your computer’s desktop. The purpose of this export is to facilitate migrating the data to any future version of the Tool. However, the easiest way to import data from an earlier version of the Tool is by clicking the “Import Data” button shown in Exhibit 43. Having Version 4 of the Tool and an older version of the Tool both open in Excel® allows the direct import of data from the earlier version.

CELLAR PLANNING

An important new capability of Version 4 is assisting cellar owners’ decisions about how to manage a purposeful decrease in the size of their cellars. The rationale for this capability relates to the role of wine cellars in their owners’ lives. It’s likely that cellars tend to grow during their owners’ middle age, largely related to their owners’ disposable income. At some point, however, the cellar owners are likely faced with the decision to downsize the cellar. For example, just because one had 1,000 bottles in one’s cellar at age 60 does not mean that one wants 1,000 bottles in the cellar at age 70. Confronting one’s mortality means thinking through the implications of maintaining a large cellar as one moves past middle age. While there are options for the cellar owner’s heirs to liquidate a cellar, the cellar owner may prefer to manage the liquidation personally.

Cellar Planning uses additional data as shown in the next two exhibits. The first new data are “Repeating Purchases”, illustrated in Exhibit 49, which can be accessed by clicking the “Update Repeating Purchases” buttons found in the Tool’s “Switchboard” (Exhibit 43) and “Cellar Plan” worksheets. Repeating Purchases are those the cellar owner makes on an annual or semiannual basis from specific wineries. Typical Repeating Purchases are those made from winery allocation or mailing lists. The popularity of some wineries can require a wait of six or more years before cracking the mailing lists. Also, the mailing lists are often “use-it-or-lose-it”, where one can be dropped from the list for missing only a single purchase offer. Together, these have the effect that once a person makes the list, they tend to continue purchasing from the list.⁷

⁷ For additional information on mailing lists, see:

<https://blog.vinfo.com/2017/08/25/ultimate-strategy-getting-best-california-wine-mailing-lists/>

<https://www.winebid.com/WineAuctionNews/6/mailling-list-wines-how-and-why-to-get-on-a-list>

<https://talk-a-vino.com/2019/01/24/lists-worth-waiting-for/>

EXHIBIT 49

The “Repeating Purchases” form [new in Version 4]

Repeating Purchases

Winery	Color	Ideal # of Bottles per Year	Minimum # of Bottles per Year	Estimated Average Price per Bottle	12-Month Average Price per Bottle	Average Rating Score	Ideal Hold Time (Years)	Priority	Use in the Cellar Plan
Winery 0015	Red	12-6 (bottles)	\$41.00	92 (points)	1 (years)	4 (priority)	Use		
Winery 0024	Red	24-12 (bottles)	\$43.00	93.5 (points)	4 (years)	5 (priority)	Use		
Winery 0070	Red	24-12 (bottles)	\$47.00	93 (points)	7 (years)	5 (priority)	Use		
Winery 0090	Red	12-6 (bottles)	\$104.00	94.5 (points)	6 (years)	5 (priority)	Use		
Winery 0134	Red	6-6 (bottles)	\$84.00	93.5 (points)	5 (years)	3 (priority)	Use		
Winery 0200	Red	12-6 (bottles)	\$45.00	92.5 (points)	2 (years)	3 (priority)	Use		
Winery 0225	Red	12-6 (bottles)	\$33.00	92 (points)	2 (years)	3 (priority)	Use		
Winery 0227	Red	6-6 (bottles)	\$85.00	93 (points)	3 (years)	2 (priority)	Use		
Winery 0270	Red	12-12 (bottles)	\$52.00	93 (points)	3 (years)	3 (priority)	Use		
Winery 0275	Red	6-6 (bottles)	\$92.00	94 (points)	8 (years)	4 (priority)	Use		
Winery 0281	Red	6-6 (bottles)	\$50.00	92 (points)	3 (years)	2 (priority)	Use		
Winery 0303	Red	6-6 (bottles)	\$48.00	92 (points)	4 (years)	2 (priority)	Use		
Winery 0312	Red	12-6 (bottles)	\$40.00	93 (points)	3 (years)	4 (priority)	Use		
Winery 0321	Red	6-6 (bottles)	\$105.00	94 (points)	5 (years)	2 (priority)	Use		
Winery 0324	Red	18-12 (bottles)	\$62.00	93 (points)	3 (years)	3 (priority)	Use		
Winery 0342	Red	6-6 (bottles)	\$40.00	92 (points)	3 (years)	4 (priority)	Use		
Winery 0371	Red	6-6 (bottles)	\$80.00	94 (points)	10 (years)	2 (priority)	Use		
Winery 0376	Red	6-6 (bottles)	\$104.00	93 (points)	3 (years)	2 (priority)	Use		

Winery: Winery 0015

Color: Red

Ideal # of Bottles per Year: 12

Minimum # of Bottles per Year: 6

Estimated Average Price per Bottle: \$41.00

12-Month Average Price per Bottle: \$38.60

Average Rating Score: 92

Ideal Hold Time (Years): 1

Priority: 4

Use in the Cellar Plan: ☒

^ Clear

^ Add to List

< Edit Item

< Delete Item

Sort By...

- ☐ Bottles per Year
- ☐ Color
- ☐ Hold Time
- ☐ Price
- ☐ Priority
- ☐ Score
- ☐ Use/Not
- ☒ Winery

Notes

Use this form to track wines that you purchase repeatedly (i.e., yearly or more frequently). The list can be sorted by bottles per year, color, hold time, price, priority, score, or winery. Double-click a list item to edit it.

Close

The Cellar Planning form is shown in Exhibit 50. Key inputs are the “Zero-Cellar Date,” which is the date at which you wish to achieve your specified inventory targets; the maximum capacity of the cellar in bottles; and the minimum priority for the Repeating Purchases. You are given the options of categorizing wines into Every-Day, Reward-Day, and Special Occasion wines based either on the purchase price or the rating score. For each category of wine, and up to six wine colors represented in the cellar, you must supply an estimate of the future average cost per bottle, the average ideal bottle age (from the purchase year), the target inventory as of the Zero-Cellar Date, and the estimated annual consumption in bottles. To assist you in setting these values, the Tool reports the historical bottle costs and average age of bottles in the cellar for each color-category combination.

After clicking the “Create the Plan” button shown in Exhibit 50, the Tool’s “Cellar Plan” worksheet provides details on the plan, as illustrated in Exhibits 51 and 52. Exhibit 51 shows the overall plan information, including the years in which you should stop making the Repeated Purchases. This information can be printed using the “Print Summary” button illustrated in Exhibit 51.

EXHIBIT 51

A cellar plan, part 1 [new in Version 4]

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Plan Summary by Year							Overall Plan Summary				Repeating Purchase Actions			
2	Year	Ttl End Inv	RP Cost	NRP Cost	Ttl Cost	Erly Btls		Cost of Repeating Purs	\$96,725.59			2023: last purchases of Winery 0371 (Red)			
3	2020	389	\$929.58	\$13,840.00	\$14,769.58	0		Cost of Non-Repeating Purs	\$50,195.00			2025: last purchases of Winery 0275 (Red)			
4	2021	406	\$11,184.00	\$2,185.00	\$13,369.00	0		Total Cost	\$146,920.60			2026: last purchases of Winery 0070 (Red)			
5	2022	423	\$11,184.00	\$2,185.00	\$13,369.00	0		Cost/Btl for Repeating Purs	\$53.86			2027: last purchases of Winery 0090 (Red)			
6	2023	440	\$11,184.00	\$2,185.00	\$13,369.00	0		Cost/Btl for Non-Repeating Purs	\$30.46			2028: last purchases of Winery 0134 (Red)			
7	2024	469	\$10,704.00	\$3,175.00	\$13,879.00	0		Total Cost/Bottle	\$42.66			2028: last purchases of Winery 0321 (Red)			
8	2025	522	\$10,704.00	\$3,685.00	\$14,389.00	0		Repeating Pur Priorities Used	>=2			2029: last purchases of Winery 0024 (Red)			
9	2026	563	\$10,152.00	\$3,265.00	\$13,417.00	0		Cellar Planning				2029: last purchases of Winery 0303 (Red)			
10	2027	616	\$9,024.00	\$4,705.00	\$13,729.00	0						2030: last purchases of Winery 0227 (Red)			
11	2028	679	\$7,776.00	\$5,205.00	\$12,981.00	0						2030: last purchases of Winery 0270 (Red)			
12	2029	711	\$6,642.00	\$4,165.00	\$10,807.00	0						2030: last purchases of Winery 0281 (Red)			
13	2030	706	\$5,322.00	\$3,525.00	\$8,847.00	0						2030: last purchases of Winery 0312 (Red)			
14	2031	572	\$1,428.00	\$1,935.00	\$3,363.00	0		Update Repeating Purchases				2030: last purchases of Winery 0324 (Red)			
15	2032	341	\$492.00	\$140.00	\$632.00	0		Print Summary				2030: last purchases of Winery 0342 (Red)			
16	2033	225	\$0.00	\$0.00	\$0.00	0		Print Color-Based Plan				2030: last purchases of Winery 0376 (Red)			
17												2031: last purchases of Winery 0200 (Red)			
18												2031: last purchases of Winery 0225 (Red)			
19												2032: last purchases of Winery 0015 (Red)			

Exhibit 52 shows the color-based plan information, which includes, by year and wine category, the number of bottles purchased as Repeating Purchases (RPs) and Non-Repeating Purchases (NRPs), year-end inventories, and total cost. This information can be printed using the “Print Color-Based Plan” button illustrated in Exhibit 51.

EXHIBIT 52

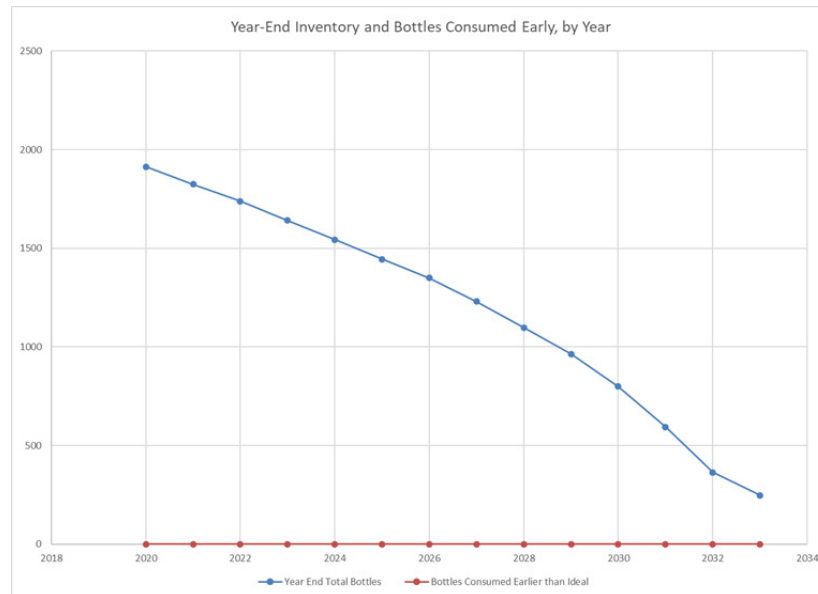
A cellar plan, part 2 [new in Version 4]

22	Color-Based Plan														
23	Red Every-Day					Red Reward-Day				Red Special-Day				Red	
24	Year	RPs	NRPs	End Inv	Cost	RPs	NRPs	End Inv	Cost	RPs	NRPs	End Inv	Cost	Ttl Cost	
25	2020	8	0	889	\$33.58	6	0	593	\$84.00	30	0	255	\$392.00	\$509.58	
26	2021	102	0	856	\$4,308.00	30	0	556	\$1,740.00	24	0	254	\$2,310.00	\$8,358.00	
27	2022	102	0	823	\$4,308.00	30	0	519	\$1,740.00	24	0	253	\$2,310.00	\$8,358.00	
28	2023	90	0	778	\$3,768.00	30	0	482	\$1,740.00	24	0	252	\$2,310.00	\$7,818.00	
29	2024	90	0	733	\$3,768.00	30	0	445	\$1,740.00	24	0	251	\$2,310.00	\$7,818.00	
30	2025	90	0	688	\$3,768.00	30	0	408	\$1,740.00	18	0	244	\$1,800.00	\$7,308.00	
31	2026	90	0	643	\$3,768.00	30	0	371	\$1,740.00	12	0	231	\$1,248.00	\$6,756.00	
32	2027	66	0	574	\$2,640.00	30	0	334	\$1,740.00	12	0	218	\$1,248.00	\$5,628.00	
33	2028	66	0	505	\$2,640.00	30	0	297	\$1,740.00	0	0	193	\$0.00	\$4,380.00	
34	2029	66	0	436	\$2,640.00	30	0	260	\$1,740.00	0	0	168	\$0.00	\$4,380.00	
35	2030	42	0	343	\$1,608.00	24	0	217	\$1,368.00	0	0	143	\$0.00	\$2,976.00	
36	2031	24	4	236	\$988.00	0	0	150	\$0.00	0	0	118	\$0.00	\$988.00	
37	2032	12	0	113	\$492.00	0	0	83	\$0.00	0	0	93	\$0.00	\$492.00	
38	2033	0	0	50	\$0.00	0	0	52	\$0.00	0	0	81	\$0.00	\$0.00	

After clicking the “Create the Plan” button shown in Exhibit 50, you can also view the year-end inventory and bottles consumed early chart shown in Exhibit 52 (the “Cellar Plan Bottles” worksheet). Bottles consumed early are those that are consumed sooner than their ideal holding time. Such consumption may be necessary given the cellar capacity limit and the length of the ideal holding period. For the example shown in Exhibit 53, the year-end inventory decreases quite consistently from its current level of over 2,000 bottles to its target of 225 bottles in 2033. This plan requires no early consumption of bottles.

EXHIBIT 53

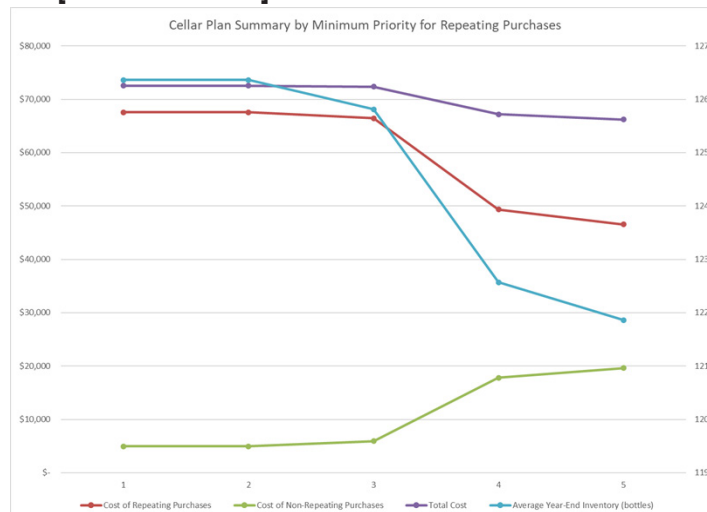
Year-end inventory and bottles consumed early in the cellar plan [new in Version 4]



Clicking the “Evaluate RP Priority Criterion” button shown in Exhibit 50 results in the Tool performing a sensitivity analysis of the “Minimum Repeating Purchase Priority” shown in Exhibit 50. The results are illustrated in Exhibit 54 (the “Cellar Plan by RP Priority” worksheet). For the cellar in question, as the Minimum Repeating Purchase Priority increases, the lifetime total cost decreases as does the lifetime cost of the Repeating Purchases. The reason for this is that for the cellar in question, the non-repeating purchases have a lower cost per bottle, so maintaining the Repeating Purchases increases the overall average bottle price. This analysis could be very helpful to cellar owners wishing to explore the effects of maintaining their Repeating Purchases while shrinking their cellar size.

EXHIBIT 54

Cellar Plan Summary chart [new in Version 4]



SUMMARY

This report explains how you can use the spreadsheet-based Tool described here to help manage your wine cellar. The Tool is designed to be as useful and straightforward as possible. If you are methodical about recording the inflows and outflows of wine to and from the cellar, you may find the large number of possible analyses useful in guiding your decisions about the cellar. Managing a wine cellar using a spreadsheet is an ongoing process, which changes as the composition of the cellar changes. I've tried to make the spreadsheet Tool useful by having it provide guidance on what to drink or what to promote, so that no wine passes its peak drinking window. I believe that the Wine Cellar Management Tool fulfills this objective.

No tool like this is ever truly complete. I am already compiling a list of features that could appear in Version 5. These include: tracking other items over time, including verticals and rating distributions; incorporating an annual budget into the Cellar Planning feature; and using bar codes and scanners to track the inventory. If you have some suggestions, please feel free to share them with me via email: gmt1@cornell.edu.

APPENDIX: VERSION 4 DETAILS

This section presents a short summary of how Version 4 compares to earlier versions of the Tool. Exhibit 55 shows comparison metrics for Versions 2, 3, and 4. From the increase in the number of exhibits, it should be clear that this Report is more thorough in its coverage and that the capability of the Tool has grown through its four versions. As the Tool does not allow any direct data entry, with everything being controlled through forms, the amount of back-end Visual Basic for Applications (VBA) code is an indicator of complexity. Compared to Version 3, the VBA code in Version 4 has increased by over 41 percent. This primarily reflects the back-end support necessary to implement the Cellar Planning capability.

EXHIBIT 55

Comparison metrics for the Report and Tool versions 2, 3, and 4

	Version 2.0	Version 3.1	Version 4.0
Exhibits in the Report (excluding the ones in this appendix)	25	10	54
Lines of VBA Code	9,772	11,350	16,064
Percent Increase Compared to Previous Version		16.1	41.5

Exhibit 56 lists the 27 new features and 23 bug fixes in Version 4 of the Tool. As mentioned earlier, the key new feature is the cellar planning capability but there are many new reports, which were described earlier.

EXHIBIT 56

Version 4 change list

New Features	
1	You can now use the tool for planning the decline of the cellar over time (to hit a desired inventory level at some future date)
2	For cellar planning, you can define Repeating Purchases (e.g., from winery allocations or mailing lists) via a new form
3	A new chart shows the cellar plan costs under restrictions on the Repeating Purchases
4	A new chart shows the future year-end inventories and bottles consumed early (related to cellar planning)
5	You can now set a 'consume-a-bottle-by' date for each wine
6	In the Wine Analysis form, you can now display the 'consume-a-bottle-by' dates
7	A new chart shows the distribution of total bottles by bottle price
8	A new chart shows the distribution of total value by bottle price
9	A new chart shows the percentage of total bottles and cellar value for the 20 wineries with the most bottles
10	The Cellar History Pt 3 chart now also displays the number of unique wines in the cellar
11	New reports list bottle counts by winery and vintage (accessible via the Wine Analysis form)
12	Double-clicking a wine shown in the Wine Analysis form will now show you that wine in the Wine Maintenance form
13	Sort options on the Purchases sheet are now listed alphabetically
14	The wine analysis form allows you to print pull lists based on wines displayed in the Wine Analysis form
15	You can now print lists of wines from the Wine Analysis form: Watch List wines; Consume-a-Bottle-By wines; High Consumption Rate wines; Predicted Expiry Dates wines; Corked wines; Everyday wines; Reward-Day wines; and Special Occasion wines
16	Can now print up to 85 wines on one page from the Inventory tab
17	In the Data Maintenance form, selecting bottles-on-hand will now list all wines with that number on-hand
18	You can now change the vintage of a purchased wine without changing all such purchases
19	You can now change the bottle size of a purchased wine without changing all such purchases
20	The Wineries (Value) chart now includes the average rating for each winery
21	To ensure data integrity, you must now define a color before saving a wine
22	The Wine Maintenance form now indicates if the current wine has any tasting notes
23	Tasting Notes listed in the Wine Maintenance form now display over as many lines as necessary to show the entire note
24	The Wine Analysis form now allows you to filter wines by country
25	Total bottles are now reported on the Wine Analysis form
26	The more complex charts now use smaller symbols
27	The number of wines reported on the "Cellar History, Pt 3" chart is now based on the wines on the Inventory sheet, not the Purchases sheet

Bug Fixes	
1	Fixed a problem with the number of special designations in the history chart
2	Fixed a problem listing wines by country
3	Fixed a problem with changing the vintage of a purchase
4	Corrected the bottles on hand count in the Data Items tab
5	In the Cellar History Pt 2 chart, the total cellar value is now in integer \$ values
6	Predicted expiry dates are no longer shown for wines with 0 bottles on hand
7	When removing a special designation (SD) via the Data Maintenance form, that SD is removed from the history chart
8	Saving a wine now updates the wine's rating on the inventory sheet, if appropriate
9	Wines with 0 bottles on hand are no longer shown on the Data Maintenance form
10	The Shipping Method field is no longer lost when sorting purchases (on the Purchases sheet)
11	Duplicate special designations for a wine cannot be specified and the tool removes earlier duplicates
12	Fixed the problem of invalid messages when saving wines with tasting notes
13	Fixed the problem of the tasting note list being too short
14	Fixed a problem with the date formats of Purchased and Cellared dates on the Purchases sheet
15	Removed some color-coding on the Purchases and Inventory sheets because they were applied inconsistently
16	Fixed a problem with the "Pick-a-Wine-for-Me" function
17	The Needed in the 'Btls Avl by Yr' chart is now based on the most recent 3 months' wine consumption
18	Fixed a problem with deleting a Special Designation
19	Fixed a problem with the Tasting Notes box appearing too small
20	Fixed a problem with invalid messages about Tasting Notes
21	Fixed an issue with how the Cellar Date and Purchase Date were displayed on the Purchases sheet
22	Fixed a problem with "FALSE" appearing as a Special Designation
23	Fixed a problem with "place holder" appearing in the list of countries and in the "Countries" and "Cellar History, Countries" charts

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