NAPA VALLEY GRAPEGROWERS GRAPE CRUSH REPORT ANALYSIS

The U.S. Department of Agriculture's California Grape Crush Report summarizes annual metrics including the dollars per ton, number of tons, and brix levels related to each grape transaction across California. This analysis was developed in 2018 to give NVG members a guide for reading and interpreting the various metrics included within the dataset, through the lens of two of Napa Valley's top varieties by acreage. However, these methods of interpretation are valuable for analyzing pricing for the vast array of varieties from which Napa Valley produces world-class wines and can be used to analyze reports that are published post-2018.

Tables 8 & 10

Napa Valley Grapegrowers has always supported the state's inclusion of Table 10, which contains weighted average prices based on arm's length transactions only (data that is the least affected by related party transactions). For example, per Table 10, **in 2018** the weighted average is **\$7,853.73** for Cabernet and **\$2,841.37** for Chardonnay.

Table 10 does not provide the same level of detail as Table 8 with regard to percentiles (the pricing by number of tons purchased), and therefore an analysis of both tables may be useful when considering pricing structure options.

Determining Percentile

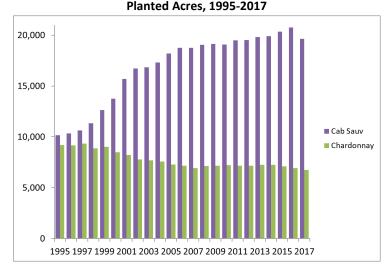
Using 2018 as an example, prices for Cabernet Sauvignon, Napa's largest crop by tonnage, ranged from \$150 to \$50,000 per ton. In order to recognize the wide range of possible values, one approach is to base pricing on the *percentile* that most closely corresponds to your product. (Definition: 75th-percentile is the price at which 75% of grapes are sold for a lower price per ton, and 25% of grapes are sold for a higher price.) While determining an appropriate percentile for your grapes is an imperfect science, there are a few ways to triangulate around the correct value. *Consider the following when determining percentile and pricing:*

- 1. What are your site and vineyard specific factors (i.e. location, soil, heritage)?
- 2. What viticultural practices do you implement? Do you invest in maintaining the highest best practices standards?
- 3. What are your farming costs? Grape prices should reflect the need to retain a skilled workforce by providing competitive wages and benefits.
- 4. What is the retail price of the wine being made from your grapes? Bottle pricing varies dramatically. Consider if the quality of your grapes is in high demand, and if the finished product's prices are high.
- 5. How does your land value compare to the market and how do the costs of your farming operation correspond to the property's original purchase price? For example, in 2018, purchase prices for planted vineyards ranged from \$50,000 to over \$400,000 per acre.

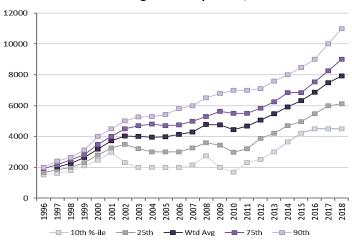
As a result of these factors, Napa Valley winegrapes are differentiated from a typical agricultural commodity, resulting in the wide range of values shown within the data.

Napa's Top Two Varieties (by Area)

Cabernet has historically been dominant in Napa County, not just because it continues to command high pricing, but also because it covers the most acreage. In 1995, approximately 10,000 acres of Cabernet Sauvignon were planted in Napa Valley; by 2015, acreage of Cabernet Sauvignon doubled to more than 20,000 acres. While continuing to be the dominant white variety, Chardonnay acreage has decreased over the same period: 9,000 planted acres existed in 1995, which by 2017 decreased to 6,749 planted acres.



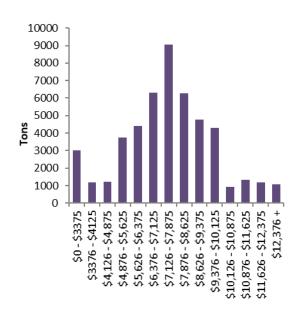
Notwithstanding this increase in supply of Cabernet Sauvignon, price per ton has continuously increased over the same period.



Cabernet Sauvignon Price per Ton, 1995-2018

At the 90th-percentile, price per ton has increased from \$2,650 in 1998 to \$6,500 in 2008 to \$11,000 in 2018, which represents a compound annual growth rate of 7% over the past 20 years. Even the 10th-percentile shows significant gains in recent years. After hovering between \$2,000 and \$3,000 from 1999 to 2013, more recent years have seen steep increases, which hovered around \$4,500 in 2018. Despite the widening range of prices, the vast majority of grapes trade within \$1,500 of the average. The following chart shows a bell curve, with an especially long tail at the higher price points.

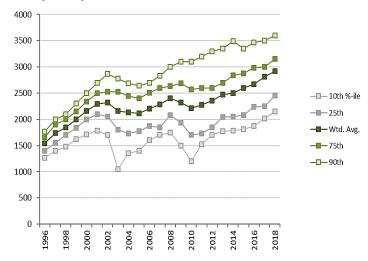
Tons of Cabernet Sauvignon Sold by Price Point, 2018



These data suggest growers may have some ability to further differentiate the price they charge for their grapes.

While the upward trend for price per ton of Chardonnay grapes has been less pronounced over the same time period for all price points, values have been increasing. The 90th percentile increased from \$2,100 in 1998 to \$3,000 in 2008 to \$3,600 in 2018 – a 3% compound annual growth rate.

Chardonnay Price per Ton, 1995-2018



The weighted average hovered near \$2,200 between 2000 and 2011 then grew to \$2,917 in 2018. It could be that the decreasing acreage of Chardonnay, in light of continued demand, may support stronger pricing.

Price per Ton Detail at Various Percentiles, 2016-2018 (Data: Grape Crush Reports, Table 8, 2016-2018)

Caber net S auvignon						Chardonnay					
	\$/Ton			% Change			\$/Ton		% Change		
	2016	2017	2018	'16-'18	'17-'18		2016	2017	2018	'16-'18	'17-'18
90th %-ile	\$9,000	\$10,000	\$11,000	10.6%	10.0%	90th %-ile	\$3,465	\$3,500	\$3,600	1.9%	2.9%
80th %-ile	\$7,988	\$8,601	\$9,387	8.4%	9.1%	80th %-ile	\$3,000	\$3,200	\$3,289	4.7%	2.8%
70th %-ile	\$7,176	\$7,999	\$8,633	9.7%	7.9%	70th %-ile	\$2,800	\$2,981	\$3,100	5.2%	4.0%
60th %-ile	\$6,603	\$7,500	\$8,000	10.1%	6.7%	60th %-ile	\$2,678	\$2,800	\$2,983	5.6%	6.5%
50th %-ile	\$6,288	\$6,849	\$7,498	9.2%	9.5%	50th %-ile	\$2,670	\$2,809	\$2,816	2.7%	0.3%
40th %-ile	\$6,143	\$6,600	\$7,136	7.8%	8.1%	40th %-ile	\$2,500	\$2,600	\$2,741	4.7%	5.4%
30th %-ile	\$5,487	\$5,986	\$6,120	5.6%	2.2%	30th %-ile	\$2,243	\$2,250	\$2,450	4.5%	8.9%
20th %-ile	\$5,196	\$5,512	\$5,942	6.9%	7.8%	20th %-ile	\$2,062	\$2,200	\$2,300	5.6%	4.5%
10th %-ile	\$4,500	\$4,500	\$4,500	0.0%	0.0%	10th %-ile	\$1,872	\$2,014	\$2,150	7.2%	6.7%
Wtd. Avg.	\$6,868	\$7,479	\$7,927	7.4%	6.0%	Wtd. Avg.	\$2,670	\$2,809	\$2,917	4.5%	3.9%

Sources:

https://www.nass.usda.gov/Statistics_by_State/California/Publications/Grape_Crush/Reports/

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