

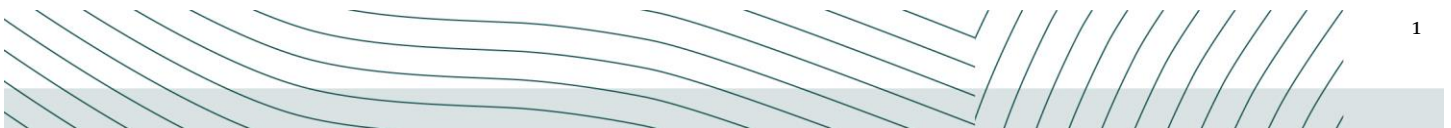
Industry Perspectives
Wine/Vineyard



This Industry Perspective was prepared by AgWest Farm Credit's Wine/Vineyard Industry Team.
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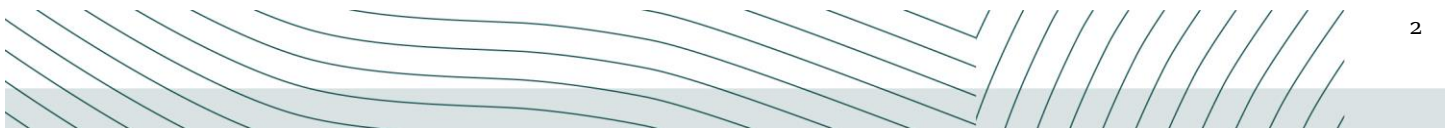


Industry Perspectives

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Introduction

Wine regions are generally broken out into two categories, Old World (European countries) and New World (everyone else). Old World countries still lead in global production, with Italy, France and Spain alone producing 50% of the world total. Growth in wine production is occurring in New World countries, led by the United States, Argentina, Australia, Chile, South Africa and China. Combined, these countries accounted for approximately 31% of the world total.

World Wine Industry Statistics 2021

Country	Vineyard Area (thousands of acres)	Production (million of gallons)	Consumption (million of gallons)
Spain	2,382	933	277
France	1,972	993	666
China	1,935	156	277
Italy	1,774	1,326	639
U.S.	988	637	874
Argentina	521	330	222
Chile	519	354	N/A
Australia	361	375	156
South Africa	311	280	106
Germany	255	211	523
World	18,108	6,868	6,234

*Available statistics are a forecast of 2020 and should not be considered final.

Source: State of the World Vitivinicultural Sector in 2021, OIV.

United States Overview

Since 2010, U.S. wine consumption has grown an average of 2.5% in total and 2% per capita per year. California produces 85% to 90% of all wines, supplying 60% of all bottles sold in the U.S. and 90% of those exported. While average production levels have not changed over the last decade, there are significant year-over-year fluctuations that can range from being down 10% to up 9%. Total estimated crush (grapes processed) in California was 3.63 million tons in 2021, up 6.5% from the previous year.

The next largest wine-producing region in the U.S. is the Pacific Northwest. Concentrated mainly in Washington, Oregon and Idaho, the region has just over 100,000 acres of wine grapes and over 2,100 wineries accounting for approximately 6% of U.S. wine production.

2021 Western U.S. Wine Industry Statistics

State	Vineyard acres	Bearing / Harvest acres	% Non-bearing acres	Grape Production (tons)	Yield (tons/acre)	Total Grape Value (thousands)	Grape Value (per ton)	Wineries (number)
CA	615,000	575,000	6.50%	3,632,000	5.91	\$3,257,904	\$897	4,807
WA	60,000	N/A	N/A	179,600	2.99	\$262,216	\$1,460	1,050
OR	41,899	38,984	6.96%	114,677	2.74	\$271,364	\$2,379	1,055
ID*	1,300	N/A	N/A	2,100	1.62	N/A	N/A	70

Sources: California: USDA NASS Grape Crush Report, USDA NASS Grape Acreage Report, Wine Institute; Washington: WA Wine Grape Production Report, WA Wine Fast Facts; Oregon: University of Oregon Vineyard and Winery Report; Idaho: Idaho Wine Commission, Wine Industry Fact Sheet. N/A: Data not available.

Pacific Northwest Perspective

Washington Vineyards

Washington ranks second among the states in U.S. wine production. It has 19 ‘appellations,’ or American Viticulture Areas (AVAs). Most plantings lie east of the Cascade Mountains. The state’s four most abundant varieties – cabernet sauvignon, riesling, chardonnay and merlot – account for more than 75% of total acreage. Cabernet is the main variety grown while most other reds are used in blends.

Wine Grape Quantity Utilized and Average Price for Washington, 2021

Type	Variety	Production (tons)	Avg. price (per ton)
Red wines	Cabernet sauvignon	50,865	\$1,900
	Merlot	21,800	\$1,545
	Syrah	20,975	\$1,445
	Malbec	3,600	\$1,818
	Cabernet franc	3,330	\$2,009
	Total Red	110,885	\$1,724
White wines	Chardonnay	25,675	\$900
	Riesling	22,800	\$775
	Sauvignon blanc	8,320	\$1,100
	Pinot gris	6,210	\$825
	Total White	68,715	\$902

Source: Washington State Wine Commission.

Washington Wineries

Washington, now boasting over 1,000 wineries, has gained fame for producing moderately priced, high-quality wines. The percentage of its wines scoring higher than 90 points by Wine Spectator exceeds France, California, Italy and Spain.

Walla Walla Valley and Woodinville have been heavy traffic and destination hotbeds for Washington wineries. Boutique wineries have transformed Walla Walla into a destination town, while Woodinville is home to Ste. Michelle. Woodinville capitalizes on direct-to-consumer sales due to its proximity to the state’s largest and most affluent metropolitan population center of Seattle-Bellevue-Tacoma.

Oregon Vineyards

Oregon currently has 18 AVAs; about half are sub-AVAs (wine growing region within a region). Unlike Washington, most of Oregon’s vineyards are cultivated west of the Cascades. Western Oregon’s climate favors cooler-season grapes like pinot noir and pinot gris. Notably, 60% of Oregon’s grape production is pinot noir. Due to the state’s cooler climate, particularly in the Willamette Valley where about 70% of Oregon’s grapes are grown, grape yields are much lower than those in other western states.

Oregon Wineries

The Oregon wine industry is relatively young, with the first pinot noir vineyards planted only 60 years ago. Oregon’s pinot noirs are recognized for high quality and demand for the state’s wine has grown over the last decade. Currently, the state is home to 1,055 wineries and most are relatively small. The average rating of 467 wines from Oregon by the Wine Spectator in 2020 exceeded 90 points.

Many Oregon wine producers enjoy the location advantage of being near large population centers, which allows for a greater volume of direct sales. The elevated interest in Oregon vineyard/winery properties is a result of its reputation for quality, focus on pinot noir and appeal as a climate hedge compared to other growing regions.

Idaho Vineyards

According to the Idaho Wine Commission, Idaho's vineyards encompass an estimated 1,300 planted acres. The state's wine output consists mainly of grape varieties that can withstand comparatively harsh winter conditions, as most of the growing areas are at high elevations. Idaho's leading varieties include chardonnay, riesling and cabernet sauvignon.

Idaho's wine industry is the newest in the Northwest. In 2007, Idaho's first AVA, Snake River Valley, was approved. The Eagle Foothills AVA, authorized in 2015, lies within the Snake River Valley. The newest AVA, approved in May 2016, is the Lewis-Clark Valley.

Idaho Wineries

Idaho currently has 70 wineries and produces on average 160,000 cases per year. Ste. Chapelle Winery and Sawtooth Estate Winery, both owned by Precept, make up a large portion of the state's production. Most of Idaho's wineries and vineyards are in the Snake River Valley, within an hour's drive of Boise. The remaining 50 are independently owned boutique wineries that rely primarily upon tasting room sales and local distribution to market their products.

Value Chain

In the Vineyard

Start-up costs are high in the wine/vineyard industry. New vines are supplied primarily by nurseries in California or Washington; once in the ground, the vines become fully productive in about two to three years. In year one, the grower establishes vine root systems, irrigation and trellises. In year two, the irrigation and trellis systems are finished, and training of the vines begins. By year three, most vines can produce a harvestable crop.

Parts of the Northwest are especially susceptible to freeze, which can severely damage vines that must be cut back or removed. Rain can prolong harvest, although most grape varieties are not damaged by rain. Pests, mold/mildew and other diseases threaten vines and grapes and must be constantly managed. Red Blotch, a disease that turns leaves red and reduces sugar accumulation in berries, has been pervasive in California vineyards, and is now being reported in Oregon. Research is currently in process, but the origin or how the disease is transferred is unclear. Smoke from wildfires can also cause problems by reducing photosynthesis (leading to lower yields) and leaving residues on grapes (resulting in undesirable sensory characteristics).

Harvest

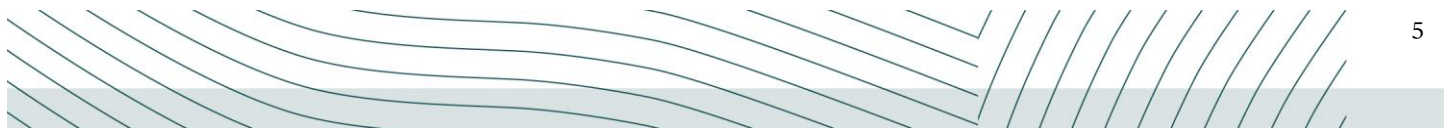
Vineyard managers measure Brix, the sugar level in grapes, to determine harvest timing. Harvest typically begins around August or September for white grapes, which are harvested before reds. Cabernet is the last grape harvested and is typically picked by October.

Grapes are harvested mechanically or by hand. For mechanically harvested grapes, machines hover over the vines, shaking them until the grapes fall. A conveyor belt on the bottom of the machine collects the grape clusters into a bin and transports the harvest to a storage cellar or directly to a crush facility. Harvesting by hand is more expensive, requiring more labor and time and is not typically an option for bottles priced under \$20. Washington vineyards are almost solely machine harvested, while in Oregon hand harvesting is more common.

Labor shortages, increasing wages and technological advancements will drive more vineyard owners to invest in machine harvesters, de-stemmers and precision pruners. There is a long-standing belief that hand harvesting leads to better quality wines. However, new optical-sorting machines on the harvesters or at the crush facility are more advanced and efficient at removing materials other than grapes (MOG).

Wineries

Harvested grapes are sent to the winery for crush, aging and bottling. Fermenting starts during the crushing phase and will continue as the wine is aged in large steel tanks or oak barrels; sometimes oak chips are added to steel tanks to impart some oak flavors more cost effectively.



To make white wine, grapes are pressed to remove skins before fermentation. Grape skins are left on for red wines and there is a period with skin contact, also known as maceration or cold soaking. Winemakers adjust the maceration time to change flavors and color. When the maceration time is complete, the red wine is pressed to remove skins.

Once fermented, wines are transferred to bottles where they are aged so the flavors can fully develop. White wines age for only a couple of months, but reds need longer. Higher-end wines can age for several years before going to market.

Marketing channels

A three-tier system was designed to track alcohol movement to minimize illegal production and sales. Under this system, a winery sells to a distributor, which in turn must sell to a retailer. With this system wineries can work with a few distributors to get their wines on many different shelves and wine lists instead of having to work with numerous retail shops and restaurants.

Consolidation has been happening for 20 years (there are currently about 1,000 distributors nationwide). Due to tighter margins, individual distributors now carry more brands but devote less time selling each brand. Because a winery with a broad product base can more effectively serve a distributor's needs than 10 different small wineries, the large winery becomes an attractive "one-stop shop." With distributors' focus on efficiently moving product, smaller wineries often find their product is a lower priority, so smaller brands are more difficult to find through retail outlets.

Attracting a distributor and getting placements in out-of-state restaurants and retailers is increasingly difficult, especially for small wineries. Out of necessity, small wineries are taking control of their marketing and focusing on the direct-to-consumer (DtC) channels. States are increasingly opening up DtC shipments to out-of-state wineries, thus expanding the DtC market.

Although the wine industry's distribution system is being modified, distributors largely control wine sales. Over 95% of U.S. wine sales are through distributors, either off premise (retail) or on premise (restaurants). DtC accounts for less than 5% of total U.S. wine sales. While still a small portion, DtC sales have shown double-digit growth for the last several years.

Drivers

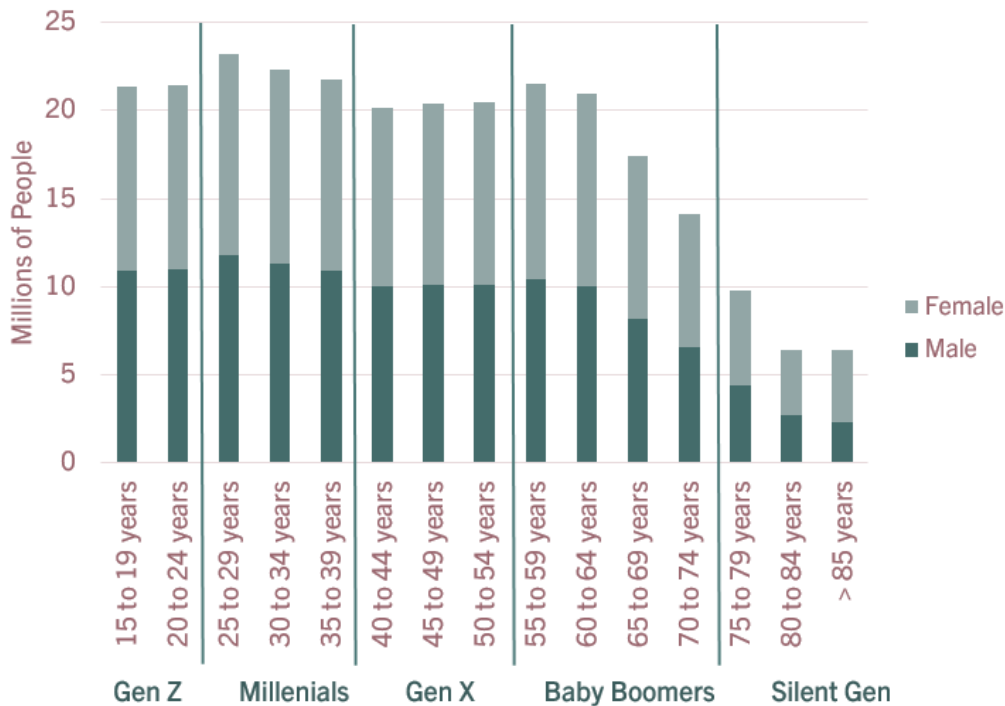
Wine demand in the U.S. is trending down slightly in terms of volume but is stable to increasing in value. This represents shifts in consumer preferences, driven largely by demographic trends and more recently, the COVID-19 pandemic.

Demographic Trends

The U.S. population has several cohorts, each with their own consumer preferences. Baby boomers maintain the largest share of disposable income and were historically more willing than others to purchase higher priced wines. However, they are consuming less as they enter retirement, look to be more health conscious and conserve their income. Generation X is now the largest consumer base of wine, yet the real growth opportunity is in attracting millennials given their higher population. This represents a significant change as millennials:

- Have more options with craft beers, seltzers, spirits and cannabis
- Are more health conscious and concerned about their environmental impact
- Respond to experience-oriented branding rather than status and family heritage
- May be more willing to spend over \$20/bottle but have less discretionary income overall

U.S. Population by Age Class



Source: U.S. Census Bureau.

COVID-19 Pandemic Lockdowns

Widespread economic lockdowns during the COVID-19 pandemic led to the largest drop in wine consumption since 2002. In the U.S., consumers switched from restaurant purchases to retail and, to a lesser extent, DtC sources (online and wineries). The average price per bottle increased, but total volume sales decreased. Consumers showed increasing interest in “out of the bottle” selections, including canned wines, box wines and tasting kits. COVID-19 lockdowns also created supply chain disruptions, leading to input material and labor shortages and higher production costs in 2020-21. While restaurant sales rebounded in 2022, they remain below pre-pandemic levels while at the same time production costs remain elevated. The long-term implications of lockdown policies are not yet known.

Varietal Preferences

Consumer preferences for varietals constantly change. A few years ago, cabernets were the hot item. Currently, sparkling wines, red blends and rosés are experiencing rapid growth. Although difficult, staying on top of varietal preferences is imperative to match vineyard production to consumer preferences.

Appendix

Best Practices

The following summarize best practices common among successful vineyard and winery operations. For this discussion, it's accepted that most successful operations employ best industry practices in production to maximize product quality and economic return. Accordingly, the following discussion is confined to marketing and finance.

Marketing

Successful **vineyard** owners:

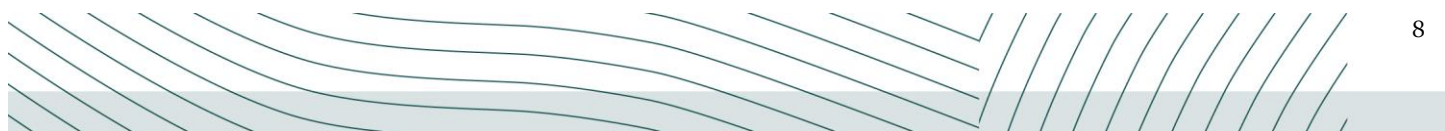
- Carefully align their long-term strategic production goals with the practical needs of the winery and the general marketplace where that fruit will be marketed
- Develop market alliances before the vineyard is designed and planted
- Thoroughly consider critical factors around vineyard establishment (trellis type, irrigation system, plant spacing, elevation, row direction, soil type, slope orientation, rootstock, clones, AVA, site selection, etc.) that can profoundly impact quality, production and marketing throughout the life of the vineyard
- Have a vineyard branding strategy and create additional value in the vineyard asset through effective marketing of grapes to reputable wineries
- Broaden marketing to multiple wineries and strive to produce high quality grapes that will merit vineyard-designated wines
- Use long-term contracts with wineries to minimize marketing risk
- Partner with reputable vineyard management companies that can help maximize fruit quality and raise the overall profile of the vineyard in the marketplace

Successful **winery** owners:

- Develop strong branding and marketing strategies
- Craft a story around their brand that is authentic and durable in the marketplace, and that is further enhanced by the personality and energy of the owners
- Genuinely enjoy people and marketing, and don't tire of telling their story repeatedly – an essential requirement of a winery owner
- Have a distinct channel strategy and effectively develop all three traditional marketing channels (retail, wholesale and distributor)
- Align themselves with reputable and financially sound brokers and distributors
- Closely participate in the marketing process in all channels
- Produce high quality wines, differentiating their brand not with the occasional high score or good review, but with consistently strong recognition year after year
- Develop wines at multiple price points that will accommodate changes in market demand and normal variations in quality from vintage to vintage
- Consider replacing wine brokerage relationships with in-house sales staff to gain better representation of the wines in the marketplace

Finance

Successful **vineyard** owners:

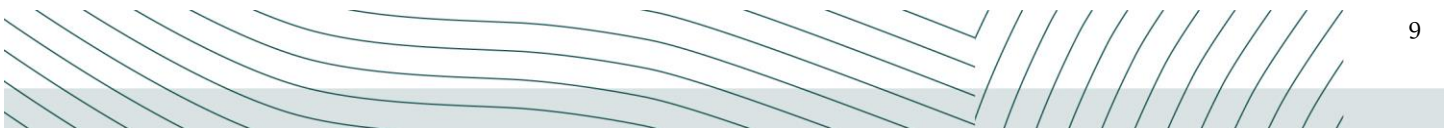


- Resist the notion that appreciation is guaranteed over time on a land and vineyard investment (a common investor motive), and carefully manage vineyard costs to generate annual cash returns
- Use long-term contracts to limit downside risk
- Persistently challenge conventional vineyard production practices that add cost without materially improving grape quality
- Use crop insurance and other risk-management tools to minimize income volatility

Successful **winery** owners:

- Align with accounting firms that have a solid understanding of the unique accounting characteristics of the wine industry
- Develop high quality accounting systems that provide internal and external audiences with a clear understanding of accrual earnings and balance sheet health
- Develop clear financial performance metrics that allow them to compare their operation to industry benchmarks
- Are smart about deploying capital and focus capital resources, if limited, first on inventory and brand building, and then on development of hard assets such as land, vineyard development and winery facilities
- Maximize use of their winery capacity with their own production, or market their unused capacity by sharing space with another winery
- Maintain health in their balance sheet, particularly liquidity, recognizing that the wine industry is highly cyclical

In summary, much of financial management is about preparing the company's balance sheet to withstand the inevitable next down cycle. When the industry is in distress, wineries can expect lower margins with pressure on quality and price. Growers can expect downward pressure on grape prices with increasing expectations for quality and slowing of new vineyard development. Meanwhile, consumers will enjoy a period of great bargains and over time, supply and demand will balance and market conditions will begin to once again tilt in favor of vineyard and winery owners. Owners who have positioned their operation to survive adversity will be ready to take advantage of opportunities in a recovering market.



Glossary

American Viticultural Area (AVA) or appellations: Geographical wine-grape growing regions in the U.S. Established at the request of wineries or other petitioners, the Alcohol and Tobacco Tax and Trade Bureau designates the boundaries.

Boutique wineries: Small, artisan and sometimes family-owned wineries.

Brix: A scale system used to measure the degree of sugar content of grapes and wine. Each degree is one gram of sugar per 100 grams of grape juice; table wine is usually between 20 to 25 Brix.

Crush facility: Processing facility where grapes are crushed to start the wine-making process.

Direct to Consumer (DtC) and direct sales: Marketing and selling directly to consumers, bypassing distributors and third-party retail locations. In the wine world this is often done through wine clubs, tasting rooms and other direct communication with the consumer.

Distributor: An agent who supplies goods to stores and other businesses.

Fermentation: Chemical breakdown of a substance by bacteria, yeasts or other microorganisms; the process for wine converts sugars to ethyl alcohol.

Maceration: Process of soaking crushed grapes, seeds and stems in a wine to extract color, aroma and tannins.

Measurements: The following table shows frequently used metrics in terms of liters and bottles.

Metric	Liters	Bottles
1 bottle	0.75 liters (750 milliliters)	1
1 case	9 liters	12
1 gallon	3.79 liters	≈ 5
1 hectoliter (hl)	100 liters	≈ 133
1 million hectoliters (mhl)	100 million liters	≈ 133.3 million

New World wine: Wines from countries or regions where winemaking was imported during and after the age of exploration; typically refers to the regions outside the traditional wine-growing areas of Europe.

Oak barrels: Wooden containers used to age and store wine. The most common oak barrels are either French oak or American oak. American oak tends to be more intensely flavored with more sweet and vanilla overtones since the grain is looser. French oak, which has a tighter grain, generates a sensation of light sweetness with fruity flavors. The most common size of a barrel holds almost 60 gallons. Oak barrels are the most expensive storage method and can be used only a couple of times before the flavoring effects wear off.

Old World wine: Wines from countries or regions where winemaking first originated, mostly refers to Europe and regions around the Mediterranean basin.

Pre-productive: When a plant is young and does not yet bear fruit.

Steel tanks: Containers used to ferment and store wine. Stainless steel tanks vary in size from a couple of gallons for home brewing up to 400,000 gallons (for reference, 800 gallons is about 4,000 bottles of wine). Steel tanks are ideal for temperature control during fermentation. They have a chamber surrounding the tank that holds coolant, which the winemaker can adjust.

Sub-AVA: An AVA within a larger AVA; see AVA definition.

Tannin: Naturally occurring polyphenol found in plants, seeds, bark, wood, leaves and fruit. In wine, it's the textural element that makes wine taste dry.

Tasting room: Part of a winery or brewery typically located on the premises. It's primarily used by guests to sample products.

Trellis system: A frame used to support climbing plants; helps to train the vine and canopy into an ideal shape for fruit growth, fruit ripening and harvesting.

Varietals: The types of grapes used in winemaking.