



Overview of the 2023 Vineyard and Winery Census Methods September 2024

As part of its research mandate, the Oregon Wine Board (OWB) commissions an annual Oregon Vineyard and Winery Census. These studies were historically conducted by the U.S. Department of Agriculture. Between 2012 and 2016, the Southern Oregon University Research Center (SOURCE) produced the Census. Since 2017, the Oregon Wine Board has contracted the University of Oregon's Institute for Policy Research and Engagement (IPRE) to prepare the Census.

Intent of this Paper

The purpose of this overview is to provide readers who desire more information about the data collection and statistical modeling procedures used to compile the annual Oregon Vineyard and Winery Census with a general overview. The intent is not to provide a detailed description of all the methods and assumptions used to develop the Census; rather we aim to answer a few basic questions that we commonly receive regarding the Census. The overview assumes some level of knowledge about data collection and statistical modeling.

Data Collection

This project attempts to collect data from all wineries and wine grape producers in the state of Oregon. The goal is to document the scope and breadth of Oregon's wine industry for each region and vintage over time.¹ Thus, the project is effectively a large-scale data collection and analysis effort that involves requesting data from every known vineyard and winery in Oregon. Maintaining a current mailing list is a significant part of this project as is working with wineries and wine grape producers to encourage them to respond.

With guidance from OWB, IPRE develops and collects data through the online winery and wine grape producer data collection instrument. IPRE uses the systematic approach to design and analysis developed by Dr. Don Dillman at Washington State University called the "[Tailored Design Method for Mail and Internet Surveys](#)." Dillman advocates a structured administration process with structured follow-up to boost response rates. IPRE uses a data collection instrument that was developed by USDA and refined by both SOU and IPRE (see appendix for the data collection instrument).

The process begins by building a database of all known wineries and vineyards in the state. IPRE uses data from the [Oregon Liquor Control Commission](#) (OLCC) on licensed producers supplemented by data from Wines & Vines, a private data management company. No complete central database exists of vineyards. IPRE relies on lists previously developed for the study, information from the Oregon Wine Board and its partner associations (including AVA associations), lists from [Wines & Vines Analytics](#) and [Everyvine](#) as well as Internet research to develop the list of vineyards. IPRE now has acreage data on over 1,090 vineyards

¹ We have received repeated questions/requests regarding presenting data for AVAs. Our ability to model production at smaller geographies is limited by data. We began collecting AVA data for vineyards for the 2021 vintage and developed pilot AVA estimates for three AVAs using 2021 data. We have been unable to develop reliable estimates by AVA due to the lack of data.

totaling over 36,650 acres.² IPRE expends considerable effort in reviewing and validating the lists each year. The unit of analysis is individual producers (business entities). Building and maintaining the database is a big part of the project—given how dynamic the wine industry is. Table 1 shows the number of wineries and vineyards in Oregon by region in 2023.

Table 1. Vineyards and Wineries in Oregon, by Region, 2023

Region	Vineyards		Wineries	
	Number	Percent	Number	Percent
North Willamette Valley	916	60.6%	756	66.1%
South Willamette Valley	125	8.3%	87	7.6%
Umpqua Valley	86	5.7%	51	4.5%
Rogue Valley	214	14.2%	144	12.6%
Columbia River	153	10.1%	79	6.9%
Other Oregon	18	1.2%	26	2.3%
Total	1,512	100.0%	1,143	100.0%

IPRE’s database includes 2,442 businesses. It is important to note the overlap that exists in the population—many entities have both a vineyard and winery; some are just vineyards; some are just wineries. A further complication emerges for vineyards and wineries that are linked, but do not share the same name. This is further complicated by the fact that the vineyard section disaggregates results by both region and variety. Many growers produce more than one variety, and many wineries produce more than one type of wine.

IPRE uses the online platform Qualtrics to collect data through a secure internet portal. Qualtrics allows management of all aspects of the administration of the data tool and provides data on who provided data, how long it took, as well as managing follow-up correspondence sending reminders only to individuals that have not provided data. Producers for which IPRE has an email contact receive a solicitation to submit data. In 2023, we contacted individuals on the list up to 30 times.³ OWB also shared links to the data collection instrument several times through The Grapevine and other industry correspondence to ensure that any producers that IPRE did not have listed in its database had an opportunity to respond. To improve participation, we also called the largest wineries and vineyards that had not participated to encourage them to participate. IPRE also sent a postcard with a link to the survey and information on how to participate to about 1,600 businesses in May 2024. OWB staff and OSU Extension agents also helped encourage producers to participate in the 2023 study.

The data collection instrument is broadly divided into two sections: (1) the vineyard section; and (2) the winery section. It uses conditional branching to direct respondents to appropriate areas of the data

² For context, we estimate Oregon had 45,999 planted acres in 2023; our database reflects 90% of the estimated total planted acres

³ Ideally this would not be necessary, but due to limited participation rates and with each solicitation generating more participants, we continued solicitations as long as possible in 2023.

collection instrument. For example, if an entity does not grow grapes, the respondent will skip the vineyard section. Appendix A includes a copy of the 2023 data collection instrument.

Analysis

The Vineyard and Winery Census is based on sample data. The results presented in the 2023 Vineyard and Winery Census were developed through statistical models that weighted up the sample data to represent estimates of the scope and extent of production across many different variables.

A total of 442 businesses participated in the 2023 vintage data collection process. This represented an increase from previous years. In 2022, 463 businesses participated; 450 businesses participated in 2021, and 486 businesses participated in 2020. Of those, 346 provided data on grape production an increase from 322 in 2022.

The overall response rate is limited as an indicator of the quality of the data IPRE uses to prepare the Census. The industry is composed of businesses of all sizes, with a small number of large businesses that account for a significant proportion of total production. Better indicators of the quality of the same are planted acres, production, and tons of grapes crushed.

Table 2 shows the number of data points collected for vineyards for all varieties by region (note that vineyards that grow more than one variety provide data for all varieties grown). For example, if a vineyard in the North Willamette Valley reported growing three varieties, it would account for three of the 562 data points collected for that region. These data points provide the foundation for Tables 1-3 in the vineyard section. The 2023 vineyard Census is based on 917 data points, the 2022 vineyard Census had 945 data points; and the 2021 Census had 955 data points.

Table 2. Vineyard Section – Number of Data Points by Region for All Varieties

Region	Number of Participating Businesses	Data Points by Variety
North Willamette Valley	227	562
South Willamette Valley	27	80
Umpqua Valley	26	87
Rogue Valley	38	101
Columbia River	23	72
Other Oregon	5	15
Total	346	917

Producers reported 11,935 planted acres, or 25.9% of the 45,999 estimated total planted acres. The data reported for 2023 are not the sole source of data IPRE relies on to estimate total acres – we have data on over 1,090 vineyards that documented more than 36,650 planted acres. The harvested acres and production figures are estimated using ratios based on vineyards that provided data for all three variables, and by reviewing trends observed in previous Census reports. The IPRE Research Team makes estimates for harvest and production for vineyards that did not provide complete data, consistent with

footnote 1 of the vineyard tables (“Includes estimates for incomplete responses”). These methods improve the overall accuracy of the results and compensate for incomplete responses.

The vineyard estimates reflect statistical relationships between planted acreage, harvested acreage, yield and price. Harvested acreage is estimated using the ratio between planted and harvested acreage as reported by participating businesses. Production is harvested acreage multiplied by yield per harvested acre (again, as reported by participating businesses). Value of production is production times price per ton. We note that estimated production by region and variety may not sum to the reported total. Total production is harvested acreage times yield per harvested acreage. Figures by region and variety may not sum due to weighting based on reported yield.

The price report presents average and median data from vineyards that report *external* grape sales (or sales to a 3rd party not affiliated with their business). IPRE modified the data collection form in 2018 to collect only data from 3rd party sales to reflect actual market conditions. Table 3 shows the number of data points by region and variety. Six data points are required to make average and median estimates. Averages are weighted by tons sold to better reflect sales prices. High values reported are the weighted averages of the three highest figures; low values reported are the weighted averages of the three lowest figures. IPRE received 387 price points in 2023, compared to 422 in 2022. This limited our ability to provide price per ton estimates for some varieties and regions. IPRE received 398 price points in 2021 and 370 in 2020.

Table 3. Price Report – Number of Data Points by Region and Variety

Variety	Statewide	North	South	Umpqua Valley	Rogue Valley	Columbia River	All Other
		Willamette Valley	Willamette Valley				
Albarnio	3	1	1	0	0	1	0
Cabernet Franc	6	2	1	0	1	2	0
Cabernet Sauvignon	7	0	1	0	2	4	0
Chardonnay	72	64	5	0	1	2	0
Chenin Blanc	1	0	1	0	0	0	0
Gamay	8	7	1	0	0	0	0
Gewurztraminer	5	3	1	1	0	0	0
Malbec	5	0	0	0	3	2	0
Merlot	5	0	1	0	1	3	0
Muller Thurgau	1	0	0	1	0	0	0
Pinot Blanc	7	7	0	0	0	0	0
Pinot Gris	41	32	6	1	1	0	1
Pinot Noir	125	101	11	5	3	4	1
Riesling	23	17	1	1	0	3	1
Sangiovese	3	0	1	0	1	1	0
Sauvignon Blanc	6	2	2	1	0	1	0
Syrah	12	3	0	1	0	7	1
Tempranillo	10	4	0	3	1	2	0
Viognier	6	1	0	0	3	1	1
All Other Varieties	41	22	2	1	8	8	0
Total	387	266	35	15	25	41	5

Table 4 shows response to the winery section by region. Overall, 361 wineries provided data or about 32% of all wineries. In 2022, 409 wineries provided data. Responding wineries reported crushing 37,914 tons of grapes in 2023 or 39% of the 97,116 total tons crushed. This is a decrease from the 46,694 tons of grapes reported by wineries in 2022.

The research team analyzes wineries by amount of production to develop industry-level models. A few large producers account for a substantial amount of overall production. The reason that 32% of wineries reported 39% of the overall crush is explained by the fact that a higher proportion of larger producers provided data for the 2023 Census.

Table 4. Winery Section – Response Rate by Region

Variety	Wineries Reporting	Total Wineries	Percent Reporting
North Willamette Valley	232	756	30.7%
South Willamette Valley	29	87	33.3%
Umpqua Valley	29	51	56.9%
Rogue Valley	43	144	29.9%
Columbia River	22	79	27.8%
Other Oregon	6	26	23.1%
Total	361	1,143	31.6%

Estimates of Planted Acres by County

IPRE prepares a separate, but related, analysis each year as part of the Vineyard and Winery Census. The estimates of planted acres by county are used by Travel Oregon in their disbursement of distributed funds from the Wine Country License Plates program. The rules and description of this program, along with the eight designated regions receiving direct fund disbursement, are described on the [Oregon Secretary of State’s website](#).

The county acreage estimates are a disaggregation of the regional estimates presented in Vineyard Table 2 of the Vineyard and Winery Census. The 2023 report estimates that Oregon had 44,487 planted acres statewide. The county estimates are based on analyzing multiple data sources: (1) our cumulative database of more than 1,400 vineyards, (2) data collected for the 2023 vineyard Census that requests businesses provide data on vineyards (e.g., vineyard name, county and planted acres), and acres planted by variety. We use this data to develop a statistical model that estimates planted acres by county.

Limitations of the Methods and Results

This project is basically a census – IPRE requests data from all vineyards and wineries in Oregon. Ideally, we would collect data from all producers, however, many producers do not provide data. Thus, the Oregon Vineyard and Winery Census uses a sampling methodology to model the scope of Oregon’s grape and wine production. As with all studies, IPRE observes considerable year-over-year variability in the sample data. This is due to the heterogenous nature of Oregon producers. This variability is considered in our modeling but creates challenges as the results are disaggregated by region, variety, and sales

channels. An ongoing challenge is partial responses—many producers only provide part of the requested information, which compounds modeling challenges. IPRE is confident the industry totals presented in the Census present a reasonably accurate estimate of vineyard and winery production in Oregon given what is reported. The accuracy of the data is reduced as it is disaggregated by region and other variables.

About the Institute for Policy Research & Engagement

The Institute for Policy Research & Engagement (IPRE) is a research center affiliated with the Department of Planning, Public Policy, and Management at the University of Oregon. It is an interdisciplinary organization that assists Oregon communities by providing planning and technical assistance to help solve local issues and improve the quality of life for Oregon residents. The role of the IPRE is to link the skills, expertise, and innovation of higher education with the transportation, economic development, and environmental needs of communities and regions in the State of Oregon, thereby providing service to Oregon and learning opportunities to the students involved.

The University of Oregon Economic Development Administration University Center is a partnership between the Institute for Policy Research & Engagement, RAIN @ UO, the Lundquist Center for Entrepreneurship, the Oregon Business Consulting Group, the Oregon Economic Forum, and UO faculty. The UO Center provides technical assistance to organizations throughout Oregon, with a focus on innovation, entrepreneurship, and rural economic development. The UO Center seeks to align local strategies to community needs, specifically with regards to building understanding of the benefits of sustainable practices and providing technical training to capitalize on economic opportunities related to those practices. The Center is partially funded through a grant from the U.S. Department of Commerce, Economic Development Administration.

Appendix: Vineyard and Winery Census Data Collection Instrument