

Labor Market Analysis: 0104.00/Viticulture, Enology, and Wine Business

Winegrowing Technician - Certificate requiring 6 to <18 semester units

Los Angeles Center of Excellence, June 2023

Summary

Program Endorsement:	Endorsed: All Criteria Met <input type="checkbox"/>	Endorsed: Some Criteria Met <input checked="" type="checkbox"/>	Not Endorsed <input type="checkbox"/>
Program Endorsement Criteria			
Supply Gap:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Living Wage: (Entry-Level, 25th)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Education:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Emerging Occupation(s)			
	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

The Los Angeles Center of Excellence for Labor Market Research (LA COE) prepared this report to provide regional labor market supply and demand data related to four middle-skill occupations:

- **Farmers, Ranchers, and Other Agricultural Managers (11-9013)** Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aquacultural operations, nurseries, timber tracts, or other agricultural establishments. May hire, train, and supervise farm workers or contract for services to carry out the day-to-day activities of the managed operation. May engage in or supervise planting, cultivating, harvesting, and financial and marketing activities.¹
- **Food Science Technicians (19-4013)** Work with food scientists or technologists to perform standardized qualitative and quantitative tests to determine physical or chemical properties of food or beverage products. Includes technicians who assist in research and development of production technology, quality control, packaging, processing, and use of foods.²
- **Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders (51-9012)** Set up, operate, or tend continuous flow or vat-type equipment; filter presses; shaker screens; centrifuges; condenser tubes; precipitating, fermenting, or evaporating tanks; scrubbing towers; or batch stills. These machines extract, sort, or separate liquids, gases, or solids from other materials to recover a refined product. Includes dairy processing equipment operators.³
- **Packaging and Filling Machine Operators and Tenders (51-9111)** Operate or tend machines to prepare industrial or consumer products for storage or shipment. Includes cannery workers who pack food products.⁴

¹ [Farmers, Ranchers, and Other Agricultural Managers \(bls.gov\)](#)

² [Agricultural and Food Science Technicians \(bls.gov\)](#)

³ [Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders \(bls.gov\)](#)

⁴ [Packaging and Filling Machine Operators and Tenders \(bls.gov\)](#)

Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.⁵ This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupations.

Based on the available data, there appears to be a supply gap for these occupations in the region. While entry-level wages are lower than the self-sufficiency standard wage in both Los Angeles and Orange counties, the majority of current workers in the field have completed some college/associate degree or less education. **Therefore, due to some of the criteria being met, the LA COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, **2,276 jobs are projected to be available annually** in the region due to new job growth and replacements, **which is more than the three-year average of 55 awards conferred** by educational institutions in the region.
 - However, all four SOC codes in this report work with a variety of food and/or agricultural products, including wine. Since these SOC codes do not solely represent winegrowing jobs, **the number of annual job openings is likely overstated.**
 - Over the past 12 months, there were **1,186 online job postings for the occupations of interest, and 15 postings that mentioned “wine” as a keyword.**
- **Living Wage Criteria** – Within Los Angeles County, the majority (90%) of annual job openings for these winegrowing-related occupations have **entry-level wages below the self-sufficiency standard hourly wage** (\$18.10/hour).⁶
- **Educational Criteria** – Within the greater LA/OC region, **97% of the annual job openings** for occupations related to winegrowing **typically require a high school education.**
 - The national-level educational attainment data indicates between 20% and 36% of workers in the field have completed some college or an associate degree, and between **71% and 94% have completed some college/associate degree or less education.**

⁵ The COE classifies middle-skill jobs as the following:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

⁶ Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

Supply:

- There are **3 community colleges** in the greater LA/OC region that issue awards related to winegrowing occupations, conferring an average of **6 awards annually** between 2018 and 2021.
- Between 2017 and 2020, there was an average of **49 awards conferred annually** in related training programs by non-community college institutions throughout the greater LA/OC region.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for these winegrowing-related occupations. In the greater Los Angeles/Orange County region, the number of jobs related to these occupations is projected to increase by 5% through 2026. There will be nearly 2,300 job openings per year through 2026 due to job growth and replacements. It is important to note that all of the SOC codes in this report work with a variety of food and/or agricultural products, and not solely wine. Therefore, the data in Exhibit 1 is likely overstated for winegrowing jobs.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties⁷

Geography	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	Annual Openings
Los Angeles	13,006	13,716	710	5%	1,675
Orange	4,714	4,885	171	4%	601
Total	17,720	18,601	881	5%	2,276

Wages

The labor market endorsement in this report considers the entry-level hourly wages for these winegrowing-related occupations in Los Angeles County as they relate to the county's self-sufficiency standard wage. Orange County wages are included below in order to provide a complete analysis of the greater LA/OC region. Detailed wage information, by county, is included in Appendix A.

Los Angeles County

The majority (90%) of annual openings for the occupations of interest have entry-level wages below the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$14.00 and \$14.70. Two occupations in this report have entry-level wages above the county's self-sufficiency standard wage: *separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders* (\$18.41), and *food science technicians* (\$18.20). Experienced workers can expect to earn wages between \$24.56 and \$58.67, which are higher than the self-sufficiency standard.

⁷ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Exhibit 2: Earnings for Occupations in LA County

Occupation	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)	Median Annual Earnings*
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	\$17.14	\$30.89	\$58.67	\$35,600
Food Science Technicians (19-4013)	\$22.64	\$30.27	\$38.72	\$47,100
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders (51-9012)	\$23.50	\$29.25	\$32.40	\$48,900
Packaging and Filling Machine Operators and Tenders (51-9111)	\$17.70	\$18.67	\$24.56	\$36,800

*rounded to the nearest \$100

Orange County

All four occupations of interest have entry-level wages below the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages are in a range between \$14.00 and \$17.68. Experienced *packaging and filling machine operators and tenders* can expect to earn \$18.22, which is below the county’s self-sufficiency standard wage. However, experienced *farmers, ranchers, and other agricultural managers; food science technicians; and separating, filtering, clarifying, precipitating and still machine setters, operators, and tenders* can expect to earn wages between \$27.53 and \$29.11, which are higher than the self-sufficiency standard.

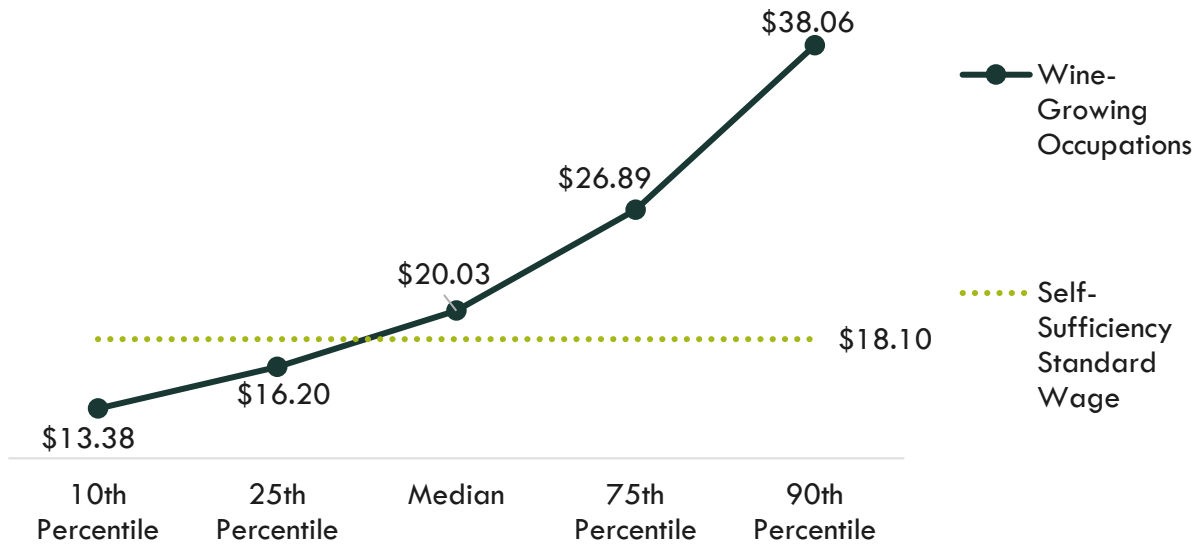
Exhibit 3: Earnings for Occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)	Median Annual Earnings*
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	\$14.00	\$16.65	\$29.11	\$34,600
Food Science Technicians (19-4013)	\$17.68	\$21.75	\$28.56	\$45,200
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders (51-9012)	\$17.35	\$22.14	\$27.53	\$46,000
Packaging and Filling Machine Operators and Tenders (51-9111)	\$14.35	\$17.27	\$18.22	\$35,900

*rounded to the nearest \$100

On average, the entry-level earnings for the occupations in this report are \$16.20; this is below the living wage for one single adult in Los Angeles County (\$18.10). Exhibit 4 shows the average wage for the occupations in this report, from entry-level to experienced workers.

Exhibit 4: Average Hourly Earnings for Wine-Growing Occupations in LA/OC

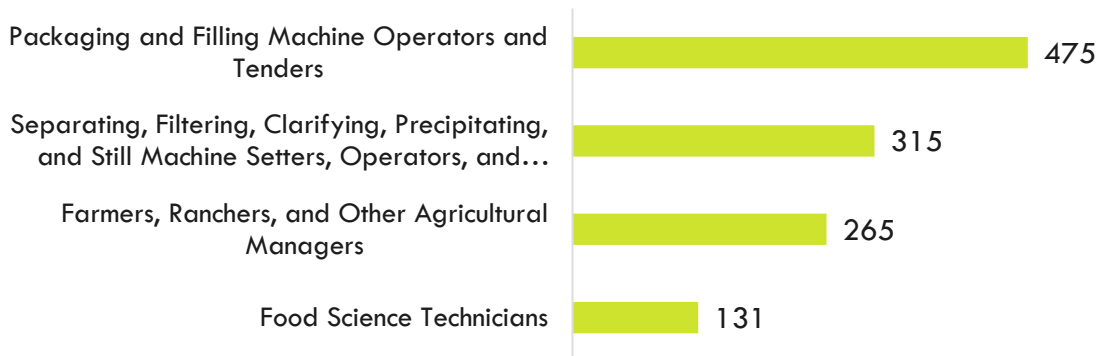


Job Postings

There were 1,186 online job postings for the occupations in this report listed in the past 12 months. Exhibit 5 displays the number of job postings by occupation. The majority of job postings (40%) were for *packaging and filling machine operators and tenders*, followed by *separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders* (27%) and *farmers, ranchers, and other agricultural managers* (22%). The highest number of job postings were for packaging technicians, packaging operators, processing technicians, farmers market managers, and packaging specialists. The top skills were good manufacturing practices (GMP), standard operating procedures, warehousing, food safety and sanitation, and machinery. The top three employers, by number of job postings, in the region were Aerotek, B. Braun, and Alcoa.

Of these 1,186 job postings, only 15 mention the keyword “wine”. The top job postings were for beer and wine managers, farmers market managers and winemakers. The top skills were marketing, product knowledge, cooking/food preparation, and winemaking. The five companies that posted job advertisements were Product Connections (7 job postings), Botanica (2), Firestone Walker Brewing Company (1), GPAC (1), and Malibu Wines (1).

Exhibit 5: Job postings by occupation (last 12 months)



Educational Attainment

The Bureau of Labor Statistics (BLS) lists the following typical entry-level education levels for the occupations in this report:

- **Associate degree:** *Food science technicians*
- **High school diploma or equivalent:** *Farmers, ranchers, and other agricultural managers; Separating, filtering, clarifying, precipitating, and still machine setters, operators, and tenders; and Packaging and filling machine operators and tenders*

In the greater LA/OC region, the majority of annual job openings (97%) typically require a high school diploma or equivalent. The national-level educational attainment data indicates between 20% and 36% of workers in the field have completed some college or an associate degree, and between 71% and 94% have completed some college/associate degree or less education. Of the 45% of related job postings listing a minimum education requirement in the greater Los Angeles/Orange County region, 81% (431) requested high school or vocational training, 2% (11) requested an associate degree, and 17% (91) requested a bachelor's degree.

Educational Supply

Community College Supply

Exhibit 6 shows the annual and three-year average number of awards conferred by community colleges in the related TOP codes: Agriculture Technology and Sciences, General (0101.00), and Plant Science (0103.00). The only three colleges with completions in the region are Mt. San Antonio, LA Pierce, and Pasadena. Currently, there are three TOP codes related to winegrowing that have not granted awards in the LA/OC within the past three years: Viticulture, Enology, and Wine Business (0104.00), Agriculture Business, Sales, and Service (0112.00) and Food Processing and Related Technologies (0113.00).

Exhibit 6: Regional community college awards (certificates and degrees), 2018-2021

TOP	Program	College	2018-19 Awards	2019-20 Awards	2020-21 Awards	3-Year Average
0101.00	Agriculture Technology and Sciences, General	LA Pierce	1	2	-	1
		Mt San Antonio	3	3	-	2
		LA Subtotal	4	5	-	3
Supply Subtotal/Average			4	5	-	3
0103.00	Plant Science	Mt San Antonio	1	3	5	3
		Pasadena	-	-	1	0
		LA Subtotal	1	3	6	3
Supply Subtotal/Average			1	3	6	3
Supply Total/Average			5	8	6	6

Non-Community College Supply

For a comprehensive regional supply analysis, it is important to consider the supply from other institutions in the region that provide training programs for winegrowing-related occupations. Exhibit 7 shows the annual and three-year average number of awards conferred by these institutions in relevant programs. Due to different data collection periods, the most recent three-year period of available data is from 2017 to 2020. Between 2017 and 2020, non-community college institutions in the region conferred an average of 49 bachelor's awards. Bachelor's awards are included in this report, since there are no related sub-baccalaureate program offerings in the region. Sub-baccalaureate awards include associate degrees, postsecondary awards, and other academic awards.

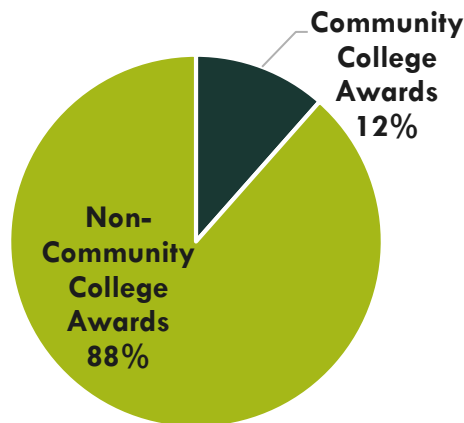
Currently, there are no LA/OC programs in Viticulture and Enology (CIP 01.0309). There are bachelor's level and certificate programs currently offered at California Polytechnic State University-San Luis Obispo, California State University-Fresno, and University of California-Davis.

Exhibit 7: Regional non-community college awards, 2017-2020

CIP	Program	Institution	2017-18 Awards	2018-19 Awards	2019-20 Awards	3-Year Average
01.0102	Agribusiness/ Agricultural Business Operations	California State Poly. Univ.-Pomona	48	32	27	36
01.1002	Food Technology and Processing	California State University-LA	10	14	15	13
Supply Total/Average			58	46	42	49

Exhibit 8 shows the proportion of community college awards conferred in LA/OC compared to the number of non-community college awards for the programs in this report. More than nine of ten awards conferred in these programs are awarded by non-community colleges in the LA/OC region.

Exhibit 8: Community College Awards Compared to Non-Community College Awards in LA/OC Region, 3-Year Average



Appendix A: Occupational demand and wage data by county

Exhibit 9. Los Angeles County

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	1,392	1,437	45	3%	163	\$14.00	\$17.14	\$30.89
Food Science Technicians (19-4013)	388	403	15	4%	59	\$18.20	\$22.64	\$30.27
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders (51-9012)	856	947	90	11%	113	\$18.41	\$23.50	\$29.25
Packaging and Filling Machine Operators and Tenders (51-9111)	10,370	10,930	560	5%	1,340	\$14.70	\$17.70	\$18.67
Total	13,006	13,716	710	5%	1,675	-	-	-

Exhibit 10. Orange County

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	471	359	(113)	(24%)	44	\$14.00	\$16.65	\$29.11
Food Science Technicians (19-4013)	113	122	9	8%	18	\$17.68	\$21.75	\$28.56
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders (51-9012)	324	359	35	11%	42	\$17.35	\$22.14	\$27.53
Packaging and Filling Machine Operators and Tenders (51-9111)	3,805	4,045	241	6%	495	\$14.35	\$17.27	\$18.22
Total	4,714	4,885	171	4%	601	-	-	-

Exhibit 11. Los Angeles and Orange Counties

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	% Age 55 and older*	Typical Entry-Level Education
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	1,863	1,795	(68)	(4%)	207	44%	HS diploma or equivalent
Food Science Technicians (19-4013)	502	525	23	5%	77	28%	Associate degree
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders (51-9012)	1,181	1,306	125	11%	156	21%	HS diploma or equivalent
Packaging and Filling Machine Operators and Tenders (51-9111)	14,175	14,975	801	6%	1,836	25%	HS diploma or equivalent
Total	17,720	18,601	881	5%	2,276	-	-

*The average percentage of workers age 55 and older across all occupations in the greater LA/OC region is 27%. *Farmers, ranchers, and other agricultural managers* have a larger share of older workers, which typically indicates greater replacements needs to offset the amount of impending retirements.

Appendix B: Sources

- O*NET Online
- Lightcast (formerly Emsi)
- Bureau of Labor Statistics (BLS)
- California Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor’s Office Management Information Systems (MIS)
- Self-Sufficiency Standard at the Center for Women’s Welfare, University of Washington
- Chancellor’s Office Curriculum Inventory (COCI 2.0)

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