

Labor Market Analysis for Program Recommendation: 0113.00/Food Processing and Related Technologies (Certificate and/or Associate – starting with non-credit)

CVML Center of Excellence, August 2026



FOR LABOR MARKET RESEARCH
CENTRAL VALLEY/MOTHER LODGE

Summary

Program LMI Endorsement	Endorsed: All LMI Criteria Met ☒	Endorsed: Some LMI Criteria Met ☐	Not LMI Endorsed ☐
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Program LMI Endorsement Criteria

	Yes ☒	No ☐
Supply Gap:	<i>Comments:</i> There are projected to be 162 annual job openings throughout the SCV/SML subregion for <i>agricultural technicians</i>-related middle-skill occupations, which are more than the 8 awards conferred by educational institutions in the SCV/SML subregion. <i>Note:</i> Only middle-skill jobs are considered when determining supply gap. Including the below middle-skill jobs increases the overall annual job openings by 358 to a total of 520.	
Living Wage: (Entry-Level as 25th Percentile):	<i>Comments:</i> Both of the <i>agricultural technicians</i>-related middle-skill occupations included in this report have an entry-level hourly wage above the SCV/SML living wage of \$16.08. <i>Note:</i> Only middle-skill jobs are considered when determining living wage.	
Education:	<i>Comments:</i> The typical entry-level education for <i>agricultural technicians</i>-related middle-skill occupations is an associate degree. Additionally, 41% have completed some college or an associate degree as their highest level of education. <i>Note:</i> Only middle-skill jobs are considered when determining education.	

Emerging Occupation(s)

Yes ☐

No ☒

Comments: N/A

The Central Valley/Mother Lode Center of Excellence for Labor Market Research (CVML COE) prepared this report to determine whether there is a supply gap in the South Central Valley/Southern Mother Lode regional labor market related to the following occupations:

- Below Middle-Skill - denoted with a caret (^) throughout this report
 - Food Batchmakers (51-3092)^
 - Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders (51-9012)^
- Middle-Skill
 - Agricultural Technicians (19-4012)

- Food Science Technicians (19-4013)

Middle-skill occupations typically require a community college education while above middle-skill occupations typically require at least a bachelor's degree.

Based on the available data, there appears to be a supply gap for *agricultural technicians*-related middle-skill occupations. In addition to both of the middle-skill occupations in this report having entry-level wages above the subregion's living wage, 41% of middle-skill workers in this field have completed some college or an associate degree as their highest level of education. **Therefore, due to all of the regional labor market criteria being met, the COE endorses this proposed program.**

Exhibit 1 lists the occupational demand, supply, typical entry-level education, and educational attainment for *agricultural technicians*-related occupations.

Exhibit 1: Labor Market Endorsement Summary

Occupation (SOC)	Demand (Annual Openings)	Supply (CC and Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Typical Entry-Level Education	Community College Educational Attainment
Food Batchmakers (51-3092)	NCV/NML: 141 SCV/SML: 219	SCV/SML: 8 NCV/NML: 0	NCV/NML: \$18.24 SCV/SML: \$17.91	High school diploma or equivalent	32%
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders (51-9012)	NCV/NML: 198 SCV/SML: 139		NCV/NML: \$22.94 SCV/SML: \$19.85	High school diploma or equivalent	36%
Below Middle-Skill Total	697	8	-	-	-
Agricultural Technicians (19-4012)	NCV/NML: 42 SCV/SML: 68	SCV/SML: 8 NCV/NML: 0	NCV/NML: \$21.58 SCV/SML: \$19.59	Associate degree	41%
Food Science Technicians (19-4013)	NCV/NML: 84 SCV/SML: 94		NCV/NML: \$22.14 SCV/SML: \$19.63	Associate degree	41%
Middle-Skill Total	288	8	-	-	-
Total	985		-	-	-

Demand:

- The number of jobs related to both of the *agricultural technicians*-related middle-skill occupations in this report are projected to decrease 1% through 2030. There will be 162 annual job openings in the SCV/SML subregion.
- Both of the *agricultural technicians*-related middle-skill occupations have an entry-level hourly wage above the living wage of \$16.08 in the SCV/SML subregion.
- There were 141 online job postings for *agricultural technicians*-related middle-skill occupations over the past 12 months.
- The Bureau of Labor Statistics (BLS) lists an associate degree as the typical entry-level education for *Agricultural Technicians* and *Food Science Technicians* and lists a high school diploma or equivalent as the typical entry-level education for *Food Batchmakers*^V and *Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders*^V.
- National-level educational attainment data indicates that 41% of middle-skill workers in the field have completed some college or an associate degree as their highest level of education.

Supply:

- Between 2022 and 2025, there was an average of 8 awards conferred by community colleges in the SCV/SML subregion.
- Between 2021 and 2024, there were no non-community college institutions in the SCV/SML subregion that conferred awards in relevant programs.

Demand

Occupational Projections

Exhibit 2a shows the annual percent change for the two *production*-related below middle-skill occupations from 2020 through 2030. The SCV/SML subregion experienced the highest growth in 2025 at 12%, compared to the 0% growth across all CA occupations. The SCV/SML subregion experienced the second highest growth in 2024 at 10%, compared to the 1% growth across all CA occupations. From 2027 to 2030, growth is projected to remain steady (between 0% and 1%) in the SCV/SML subregion, similar to all CA occupations.

Exhibit 2a (Below Middle-Skill) Annual Percent Change in Jobs for Production Occupations, 2020-2030

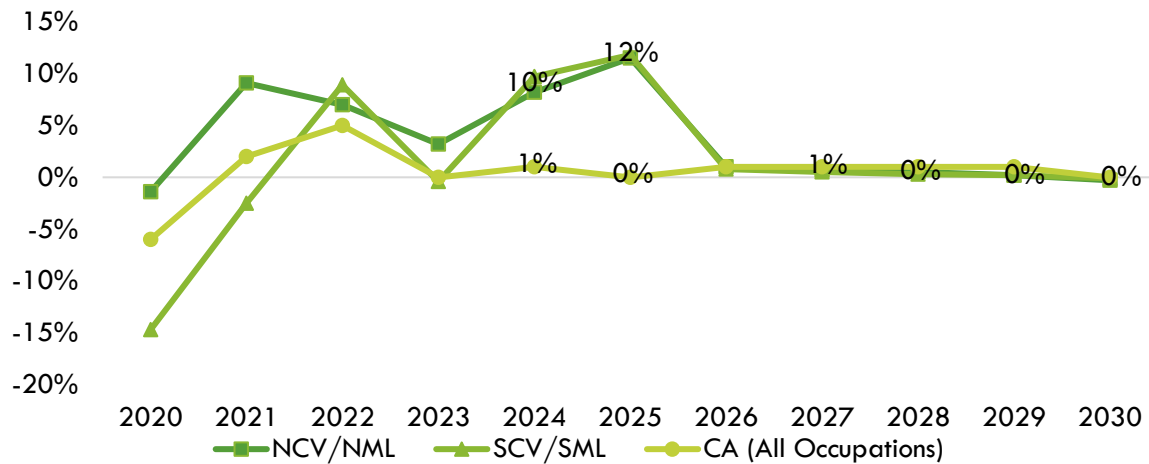


Exhibit 2b shows the annual percent change two *agricultural technicians*-related middle-skill occupations from 2020 through 2030. The SCV/SML subregion experienced the highest growth in 2021 at 27%, compared to the 2% growth across all CA occupations. The SCV/SML subregion experienced the second highest growth in 2022 at 15%, compared to the 5% growth across all CA occupations. From 2027 to 2030, growth is projected to remain steady (between -1% and 0%) in the SCV/SML subregion.

Exhibit 2b (Middle-Skill) Annual Percent Change in Jobs for Agricultural and Food Science Technicians, 2020-2030

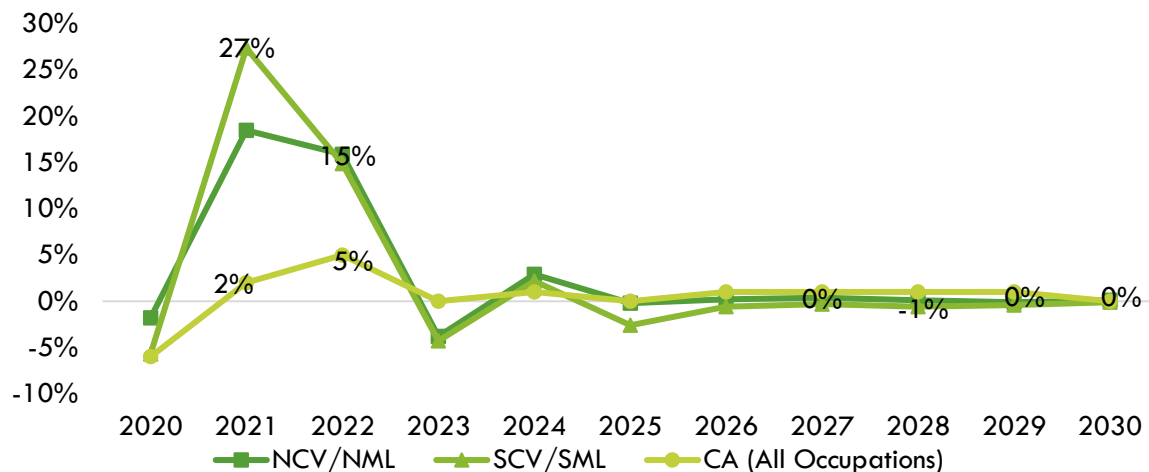


Exhibit 3a shows the five-year occupational demand projections for the two *production-related* below middle-skill occupations. In the SCV/SML subregion, the number of jobs related to these occupations are projected to increase by 2% through 2030. There are projected to be 358 jobs available annually in the SCV/SML subregion.

Exhibit 3a (Below Middle-Skill): Occupational Demand in NCV/NML, SCV/SML, and CVML¹

Geography	2025 Jobs	2030 Jobs	2025-2030 Change	2025-2030 % Change	Annual Openings
NCV/NML	2,676	2,733	57	2%	339
SCV/SML	2,825	2,879	54	2%	358
CVML	5,501	5,612	111	2%	697

Exhibit 3b shows the five-year occupational demand projections for the two *agricultural technicians-related* middle-skill occupations. In the SCV/SML subregion, the number of jobs related to these occupations are projected to decrease by 1% through 2030. There are projected to be 162 jobs available annually in the SCV/SML subregion.

Exhibit 3b (Middle-Skill): Occupational Demand in NCV/NML, SCV/SML, and CVML

Geography	2025 Jobs	2030 Jobs	2025-2030 Change	2025-2030 % Change	Annual Openings
NCV/NML	822	828	6	(2%)	126
SCV/SML	1,089	1,069	(20)	(1%)	162
CVML	1,911	1,897	(14)	1%	288

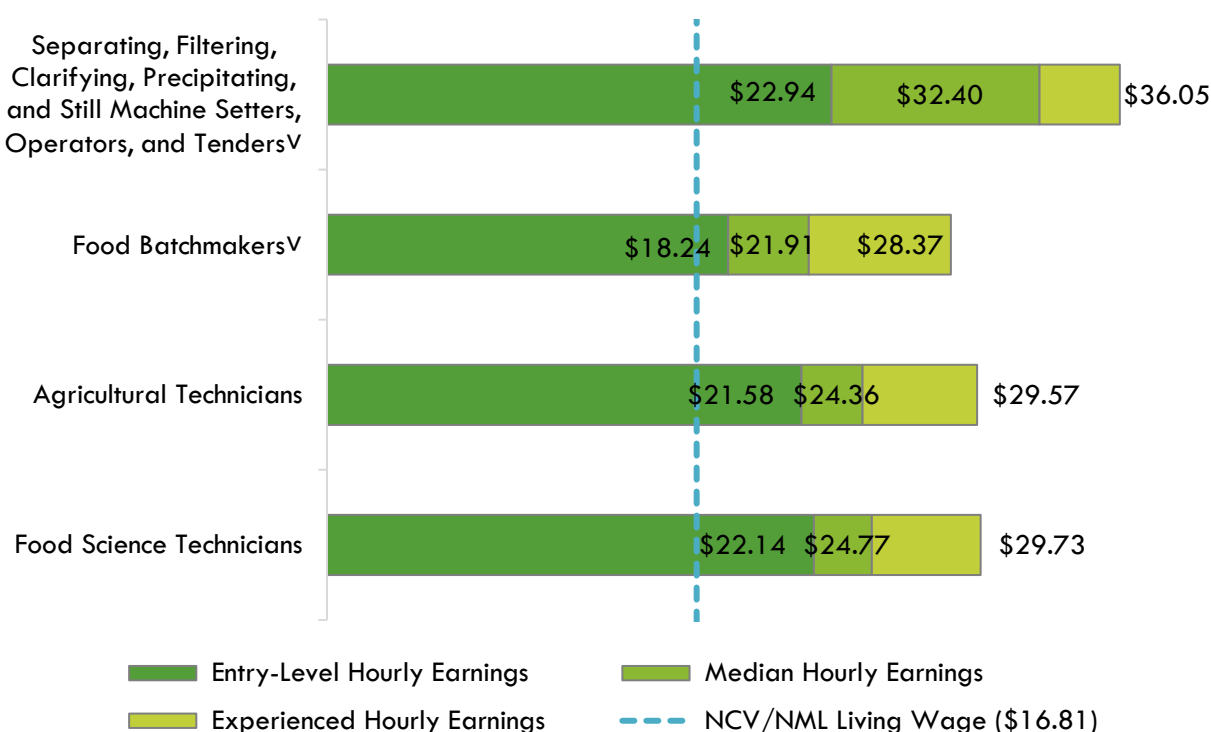
¹Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Wages:

The labor market endorsement in this report considers the entry-level hourly wages for the four *agricultural technicians*-related occupations as they relate to the subregions and region's living wage. NCV/NML, SCV/SML, and CVML wages are included below to provide a complete analysis of the region.

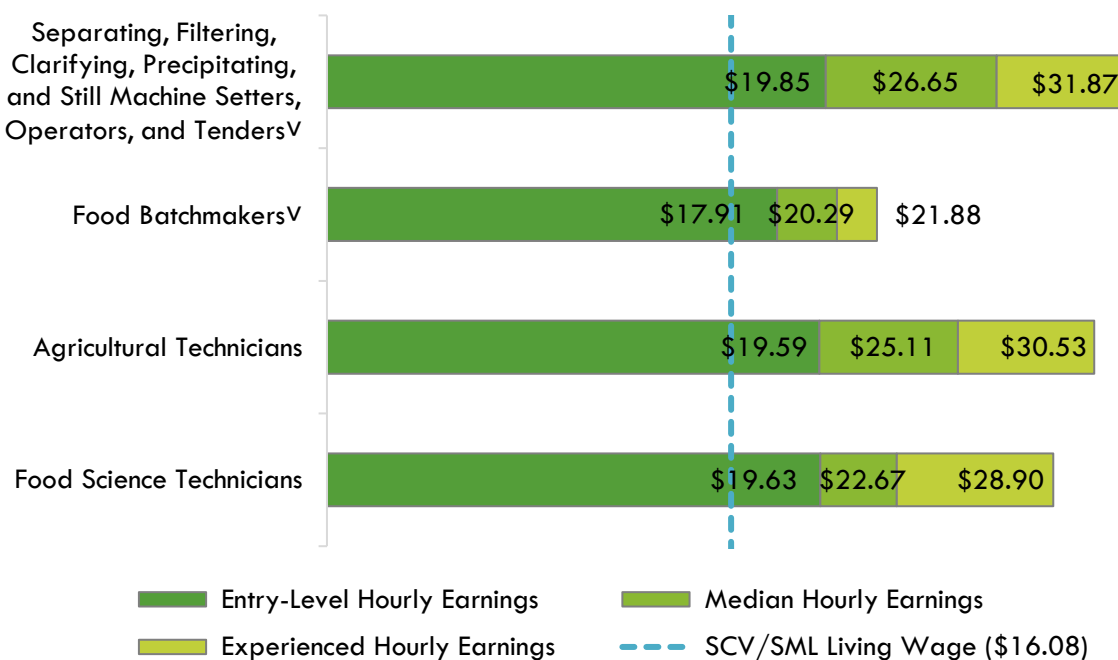
All four *agricultural technicians*-related occupations have an entry-level hourly wage above the living wage for one adult in the NCV/NML subregion (\$16.81). The NCV/NML subregion average wage for these occupations is \$18.66, which is below the average statewide wage of \$20.77. Exhibit 4a shows the wage range for *agricultural technicians*-related occupations and how they compare to the NCV/NML subregion's living wage.

Exhibit 4a: Wages by Occupation in NCV/NML



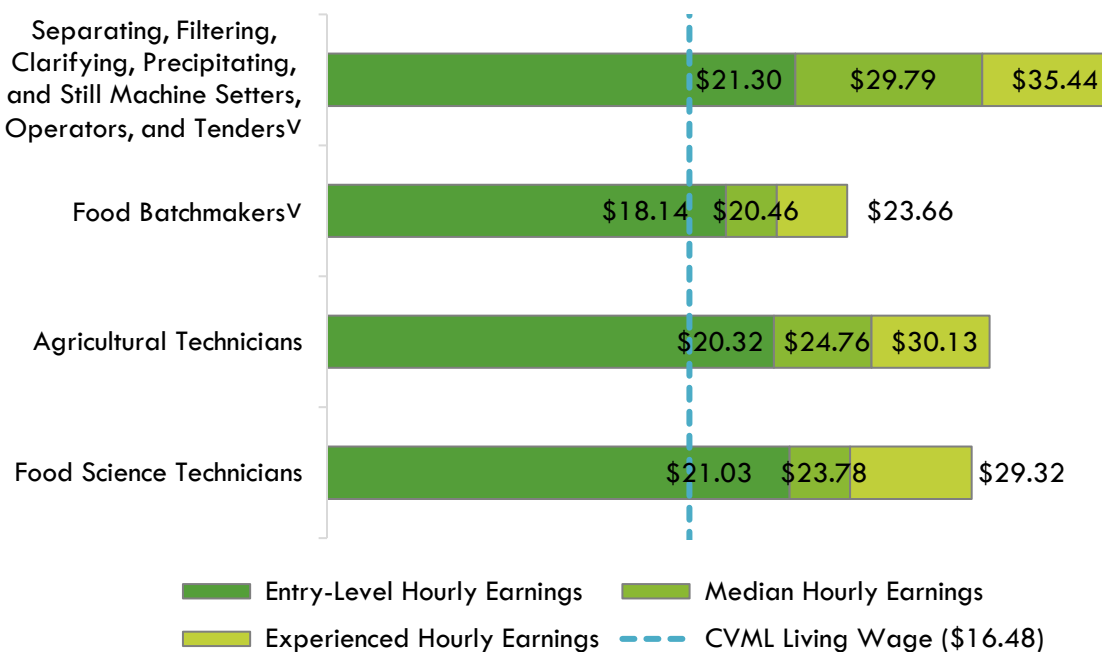
All four *agricultural technicians*-related occupations have an entry-level hourly wage above the living wage for one adult in the SCV/SML subregion (\$16.08). The SCV/SML subregion average wage for these occupations is \$22.59, which is above the average statewide wage of \$20.77. Exhibit 4b shows the wage range for *agricultural technicians*-related occupations and how they compare to the SCV/SML subregion's living wage.

Exhibit 4b: Wages by Occupation in SCV/SML



All four *agricultural technicians*-related occupations have an entry-level hourly wage above the living wage for one adult in the CVML region (\$16.48). The CVML region average wage for these occupations is \$17.19, which is below the average statewide wage of \$20.77. Exhibit 5 shows the wage range for *agricultural technicians*-related occupations and how they compare to the CVML region's living wage.

Exhibit 5: Wages by Occupation in CVML



Job Postings:

Important Online Job Postings Data Note: Online job postings data is sourced from Lightcast, a labor market analytics firm that scrapes, collects, and organizes data from online job boards such as LinkedIn, Indeed, Glassdoor, Monster, GovernmentJobs.com, and thousands more. Lightcast uses natural language processing (NLP) to determine the related company, industry, occupation, and other information for each job posting. However, NLP has limitations that include understanding contextual words of phrases; determining differences in words that can be used as nouns, verbs, and/or adjectives; and misspellings or grammatical errors.² For these reasons, job postings could be assigned to the wrong employer, industry, or occupation within Lightcast's database.

Additionally, there are several limitations when analyzing job postings. A single job posting may not represent a single job opening, as employers may be creating a pool of candidates for future openings or hiring for multiple positions with a single posting. Additionally, not all jobs are posted online, and jobs may be filled through other methods such as internal promotion, word-of-mouth advertising, physical job boards, or a variety of other channels.

There were 5 online job postings related to *Production Occupations* listed in the past 12 months (Exhibit 6a).

Exhibit 6a (Below Middle-Skill): Number of Job Postings (n=5)

Occupations	Job Postings	Percentage of Job Postings
Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders	3	60%
Food Batchmakers	2	40%

There were 141 online job postings related to *Agricultural and Food Science Technicians* listed in the past 12 months (Exhibit 6b).

Exhibit 6b (Middle-Skill): Number of Job Postings (n=141)

Occupations	Job Postings	Percentage of Job Postings
Agricultural Technicians	133	94%
Food Science Technicians	8	6%

The top employers in the region for *Production Occupations*, by number of job postings, are shown in Exhibit 7a.

Exhibit 7a (Below Middle-Skill): Top Employers by Number of Job Postings (n=5)

Employers	Job Postings	Percentage of Job Postings
Kern River Brewing Company	2	40%
PrideStaff	1	20%

²K. R. Chowdhary, *Fundamentals of Artificial Intelligence* (Basingstoke: Springer Nature, 2020), <https://link.springer.com/book/10.1007/978-81-322-3972-7>

Employers	Job Postings	Percentage of Job Postings
Three Oaks Vineyard	1	20%

The top employers in the region for *Agricultural and Food Science Technicians*, by number of job postings, are shown in Exhibit 7b.

Exhibit 7b (Middle-Skill): Top Employers by Number of Job Postings (n=141)

Employers	Job Postings	Percentage of Job Postings
GPAC	19	13%
State of California	13	9%
University of California	10	7%
AgCall	7	5%
California Dairies	5	4%
J.R. Simplot Company	4	3%
Fresno Unified School District	4	3%
Moonlight Companies	4	3%
California State Personnel Board	3	2%
Green Leaf	3	2%

The top specialized, common, and software skills for *Production Occupations* are listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 8a.

Exhibit 8a (Below Middle-Skill): Top Skills by Number of Job Postings (n=5)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Fermentation (3)	Operations (3)	Inventory Management System (1)
Operational Efficiency (2)	Accountability (2)	-
Continuous Improvement Process (2)	Organizational Skills (2)	-
Finished Good (2)	Management (2)	-
Packaging and Labeling (2)	Cleanliness (2)	-
Production Equipment (2)	Customer Service (2)	-
Quality Management (2)	Training And Development (2)	-
Occupational Safety and Health Administration (OSHA) (2)	Leadership (2)	-

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Material Handling Equipment (1)	Troubleshooting (Problem Solving) (2)	-
Inventory Reconciliation (1)	Verbal Communication Skills (2)	-

The top specialized, common, and software skills for *Agricultural and Food Science Technicians* are listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 8b.

Exhibit 8b (Middle-Skill): Top Skills by Number of Job Postings (n=141)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Agriculture (61)	Operations (62)	Microsoft Office (13)
Food Safety And Sanitation (35)	Communication (47)	Microsoft Excel (11)
Agronomy (31)	Customer Service (46)	Microsoft Outlook (11)
Sanitation (22)	Sales (31)	Inventory Control Systems (9)
Lifting Ability (21)	Management (30)	Microsoft Access (5)
Soil Science (21)	Troubleshooting (Problem Solving) (28)	Productivity Software (4)
Packaging And Labeling (19)	Detail Oriented (25)	Microsoft Word (3)
Mechanical Aptitude (18)	Quality Control (18)	Microsoft Windows (3)
Food Manufacturing (17)	Multilingualism (17)	R (Programming Language) (3)
Good Manufacturing Practices (17)	Record Keeping (15)	Microsoft PowerPoint (2)

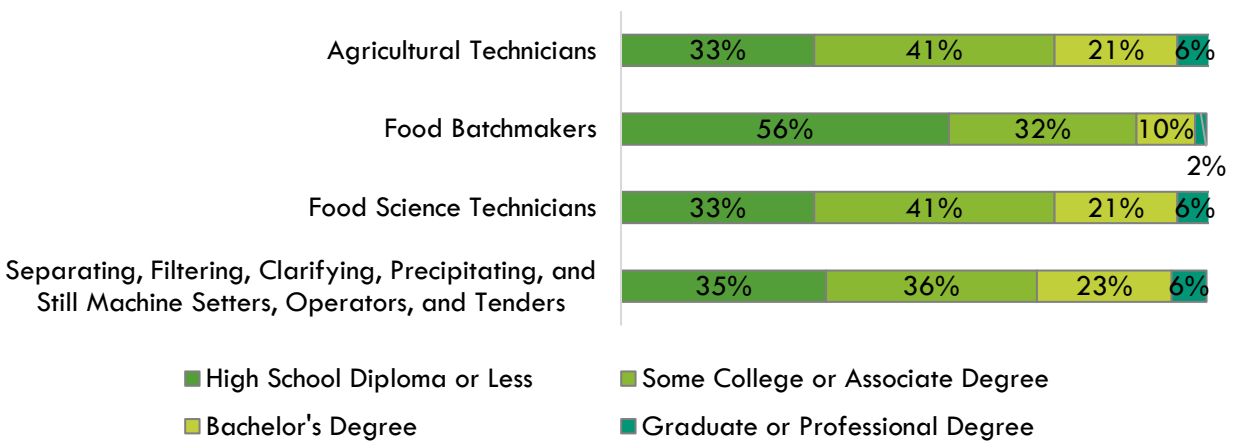
Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for *Food Batchmakers* and *Separating, Filtering, Clarifying, Precipitating, and Still Machine Setters, Operators, and Tenders* and lists an associate degree as the typical entry-level education for *Agricultural Technicians* and *Food Science Technicians*. National-level educational attainment data indicates 41% of middle-skill workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 9 shows the educational attainment for the four *agricultural technicians*-related occupations.

Of the 5 online job postings for the below middle-skill occupations, 0% (equivalent to 0 postings) of cumulative job postings listed a minimum education requirement in the SCV/SML subregion. Of the 0 postings, 0% requested a high school or GED.

Of the 141 online job postings for the middle-skill occupations, 38% (equivalent to 53 postings) of cumulative job postings listed a minimum education requirement in the SCV/SML subregion. Of the 53 postings, 79% (42) requested a high school or GED.

Exhibit 9: National-level Educational Attainment for Agricultural Technicians-Related Occupations



Educational Supply

Community College Supply:

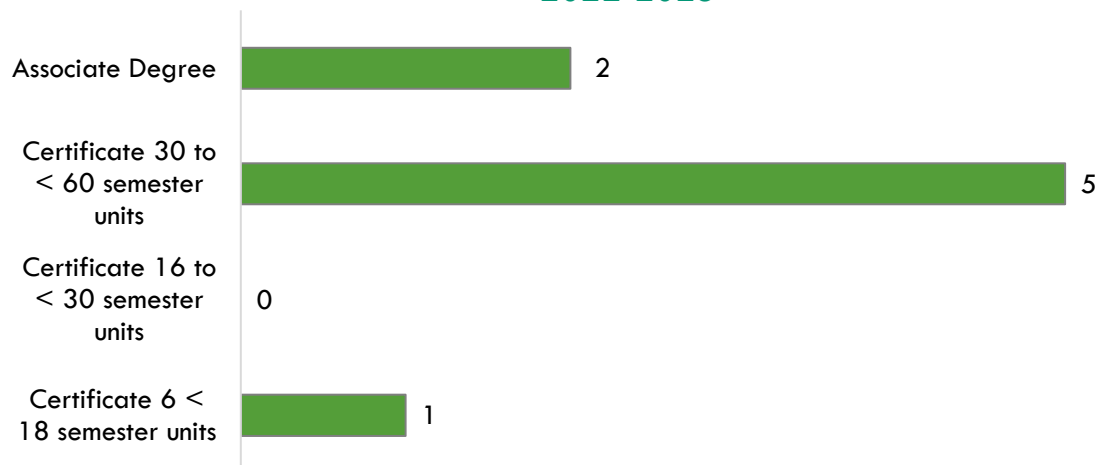
Exhibit 10 shows the annual and three-year average number of awards conferred by community colleges in the programs that have historically trained for the occupations included in this report. The college with the most completions is Bakersfield (South). No awards were conferred by NCV/NML community colleges.

**Exhibit 10: SCV/SML Community College Awards (Certificates and Degrees)
2022-23 through 2024-25**

TOP Code	Program	College	2022-2023 Awards	2023-2024 Awards	2024-2025 Awards	3-Year Award Average
0113.00	Food Processing and Related Technologies	Bakersfield	5	8	7	7
		Coalinga	-	1	-	-
		Sequoias	1	1	-	1
Subtotal/Average			6	10	7	8
SCV/SML Supply Grand Total			6	10	7	8

Exhibit 11 shows the annual average community college awards by type from 2022-23 through 2024-25. Of the 8 awards conferred in the SCV/SML subregion, 25% (2) of these awards were for an associate degree.

Exhibit 11: Annual Average Community College Awards (SCV/SML) by Type, 2022-2025



Community College Student Outcomes:

Exhibit 12 show the Strong Workforce Program (SWP) metrics for Viticulture, Enology, and Wine Business and Food Processing and Related Technologies programs in State Center Community College District (SCCCD), the SCV/SML subregion, the CVML region, and California.

Of the 324 food processing and related technologies program students statewide in the 2024-2025 academic year, 40% (128) attended a CVML institution. SCV/SML subregion students that exited food processing and related technologies programs in the 2023-2024 academic year had equal median annual earnings (\$38,344) compared to all food processing and related technologies students in CVML region (\$38,344). Additionally, 56% of CVML region food processing and related technologies students attained a living wage, which is less than the percentage of students who attained a living wage statewide (60%).

Exhibit 12: Food Processing and Related Technologies (0113.00) Strong Workforce Program Metrics

SWP Metric	SCCCD	SCV/SML Subregion	CVML Region	California
SWP Students	N/A	128	128	324
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	N/A	47%	47%	30%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	N/A	81%	81%	40%
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	N/A	9%	9%	5%
SWP Students Who Transferred to a Four-Year Postsecondary Institution	N/A	N/A	N/A	4%
SWP Students with a Job Closely Related to Their Field of Study	N/A	N/A	N/A	N/A
Median Annual Earnings for SWP Exiting Students	N/A	\$38,344 (\$18.43)	\$38,344 (\$18.43)	\$50,092 (\$24.08)
Median Change in Earnings for SWP Exiting Students	N/A	N/A	N/A	27%
SWP Exiting Students Who Attained the Living Wage	N/A	56%	56%	60%



2024-2025



2023-2024



2022-2023



N/A

Non-Community College Supply:

For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for the occupations studied in this report. This includes examining the annual and three-year average number of awards conferred by non-community college institutions in programs that have historically trained for the occupations of interest.

Between 2021 and 2024, there were no non-community college institutions in the SCV/SML subregion that conferred awards annually in related training programs.

Appendix A: Methodology

The CVML COE prepared this report by analyzing data from occupations and education programs.

Occupational data is derived from Lightcast, a labor market analytics firm that consolidates data from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS) and other government agencies. Program supply data is drawn from two systems: Taxonomy of Programs (TOP) and Classification of Instructional Programs (CIP).

Using a TOP-SOC crosswalk, the CVML COE identified middle-skill jobs for which programs within these TOP codes train. Middle-skill jobs include:

- 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.

The CVML COE determined labor market supply for an occupation or SOC code by analyzing the number of program completers or awards in a related TOP or CIP code. The COE developed a “supply table” with this information, which is the source of the program supply data for this report. TOP code data comes from the California Community Colleges Chancellor's Office MIS Data Mart (datamart.cccco.edu) and CIP code data comes from the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS. TOP is a system of numerical codes used at the state level to collect and report information on California community college programs and courses throughout the state that have similar outcomes. CIP codes are a taxonomy of academic disciplines at institutions of higher education in the United States and Canada. Institutions outside of the California Community College system do not use TOP codes in their reporting systems.

Data included in this analysis represent the labor market demand for relevant positions most closely related to the proposed program as expressed by the requesting college in consultation with the CVML COE. Traditional labor market information was used to show current and projected employment based on data trends, as well as annual average awards granted by regional community colleges. Real-time labor market information captures job post advertisements for occupations relevant to the field of study which can signal demand and show what employers are looking for in potential employees but is not a perfect measure of the quantity of open positions.

All representations have been produced from primary research and/or secondary review of publicly and/or privately available data and/or research reports. The most recent data available at the time of the analysis was examined; however, data sets are updated regularly and may not be consistent with previous reports. Efforts have been made to qualify and validate the accuracy of the data and findings; however, neither the Centers of Excellence for Labor Market Research (COE), COE host district, nor California Community Colleges Chancellor's Office are responsible for the applications or decisions made by individuals and/or organizations based on this study or its recommendations.

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	Traditional labor market information data is sourced from Lightcast, a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see https://lightcast.io/
Living Wage	The living wage is derived from the Insight Center's California Family Needs Calculator, which measures the income necessary for an individual of family to afford basic expenses. The data assesses the cost of housing, food, childcare, health care, transportation, and taxes. For more information, see: https://selfsufficiencystandard.org/California/ Wage figures are used by the CCCCCO to calculate the percentage of students that attained the regional living wage.
Typical Education and Training Requirements, and Educational Attainment	The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, see https://www.bls.gov/emp/documentation/education/tech.htm
Emerging Occupation Descriptions, Additional Education Requirements, and Employer Preferences	The O*NET database includes information on skills, abilities, knowledges, work activities, and interests associated with occupations. For more information, see https://www.onetonline.org/help/online/
Educational Supply	The CCCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: https://datamart.cccco.edu The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions
Student Metrics and Demographics	DataVista, a statewide data system supported by the California Community Colleges Chancellor's Office and hosted by Cal-PASS Plus, provides data on progress, success, employment, and earnings outcomes for California community college students. For more information, see: https://datavista.cccco.edu/
Population and Occupation Demographics	The Census Bureau's American Community Survey (ACS) is the premier source for detailed population and housing information. For more information, see: https://www.census.gov/programs-surveys/acs Data is sourced from IPUMS USA, a database providing access to ACS and other Census Bureau data products. For more information, see: https://usa.ipums.org/usa/about.shtml

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