Labor Market Analysis for Program Modification: 0109.30/Nursery Technology
(*Greenhouse and Nursery Production Certificate*)
Orange County Center of Excellence, December 2024

Summary

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

Program LMI Endorsement Criteria		
	Yes ☑	No ☐
Supply Gap:	*Comments:* there is projected to be **848 annual job openings** throughout Los Angeles and Orange counties for these greenhouse and nursery production occupations, which **is more than the 159 awards conferred by educational institutions**.	
	Yes ☐	No ☑
Self-Sufficiency Standard Living Wage[1]:	*Comments:* **all annual job openings** for these greenhouse and nursery production occupations **have entry-level hourly wages significantly below the OC living wage of $27.13**.	
	Yes ☑	No ☐
Education:	*Comments:* though all annual job openings for these greenhouse and nursery production occupations **typically require a high school diploma**, between **27% and 30% of workers in the field have completed some college or an associate degree as their highest level of education.**	

Additional Considerations		
Emerging Occupation(s):	Yes ☐ Some ☐ No ☑	
	Comments: N/A	
OC Resilient Job(s):	Yes ☐ Some ☐ No ☑	
	Comments: See Resilient Jobs and US News & World Report Best Jobs	
U.S. News & World Report 2024 Best Jobs List[2]:	Yes ☐ Some ☐ No ☑	
	Comments: See Resilient Jobs and US News & World Report Best Jobs	

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to determine whether there is a supply gap in the Los Angeles/Orange County regional labor market related to two middle-skill occupations:

- *First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers* (37-1012)
- *Pesticide Handlers, Sprayers, and Applicators, Vegetation* (37-3012)

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[1] At the direction of the California Community College Chancellor's Office, the living wage endorsement criteria in this report uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard, which the COE refers to as a living wage, to determine Orange County's living wage of $27.13, last updated in March 2024.
[2] "100 Best Jobs of 2024," U.S. News & World Report, accessed May 7, 2024, https://money.usnews.com/careers/best-jobs/rankings/the-100-best-jobs.

Based on the available data there appears to be a supply gap for these greenhouse and nursery production occupations and typical education requirements for these occupations align with a community college education. However, all the annual job openings have entry-level wages significantly below the Self-Sufficiency Standard living wage. **Therefore, due to some 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 the occupations included in this report.

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
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers (37-1012)	LA: 530	LA: 76			
	OC: 263	OC: 83	OC: $19.02	High school diploma or equivalent	30%
	TTL: *794*	TTL: *159*			
Pesticide Handlers, Sprayers, and Applicators, Vegetation (37-3012)	LA: 35				
	OC: 19	*Accounted for above*	OC: $19.82	High school diploma or equivalent	27%
	TTL: *54*				
Total	**848**	**159**	**N/A**	**N/A**	**N/A**

Demand:

- The number of jobs related to these greenhouse and nursery production occupations is projected to increase 1% through 2028, equating to 848 annual job openings for these greenhouse and nursery production occupations.
- Hourly entry-level wages for these greenhouse and nursery production occupations range from $19.02 to $19.82 in Orange County; all annual job openings have entry-level wages significantly below the Self-Sufficiency Standard living wage.
- There were 1,261 online job postings for these greenhouse and nursery production occupations over the past 12 months. The highest number of postings were for landscape managers, landscape account managers, and landscape foremen.
- The typical entry-level education for these greenhouse and nursery production occupations required a high school diploma.
- Between 27% and 30% of workers in the field have completed some college or an associate degree as their highest level of educational attainment.

Supply:

- There was an average of 159 awards conferred by 7 community colleges in Los Angeles and Orange Counties from 2020 to 2023.
- No awards conferred by non-community colleges in Los Angeles and Orange counties from 2020-2023.
- Orange County community college students that exited nursery technology programs in the 2020-21 academic year had a median annual wage of $25,711 ($12.36 per hour) after exiting the program. Due to a low number of students, student outcomes data for living wage is not available for the Orange County region.
- Throughout Orange County, 100% of nursery technology students (3) that exited their program in 2019-20 reported that they are working in a job closely related to their field of study.

Demand

Occupational Projections:

Exhibit 2 shows the annual percent change in jobs for these greenhouse and nursery production occupations from 2018 through 2028. Though there was a 7% decline across all occupations in Los Angeles and Orange counties from 2019 to 2020 due to the COVID-19 pandemic, employment in these greenhouse and nursery production occupations decreased by only 4% during the same period.

In the two years preceding the pandemic, employment for these occupations fluctuated in Orange County with a period of stagnation in 2019 following an increase in 2018. After a decrease in employment in 2020 and an increase through 2023, employment for these two occupations in Orange County is projected to remain flat through 2028, experiencing a lower rate relative to all occupations in Los Angeles and Orange counties.

Exhibit 2: Annual Percent Change in Jobs for Greenhouse and Nursery Production Occupations, 2018-2028
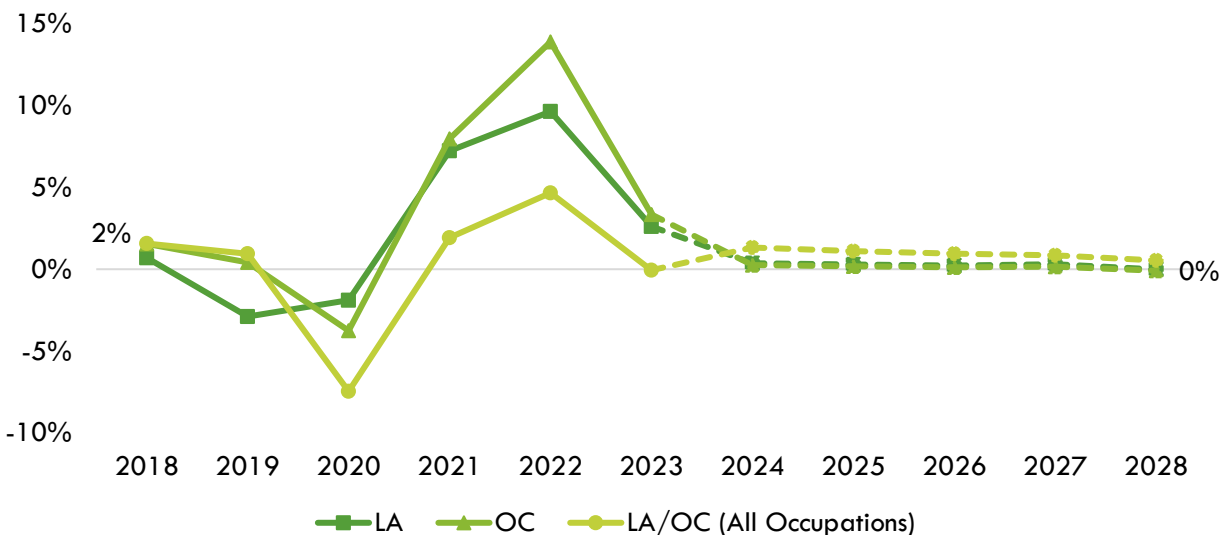

Exhibit 3 shows the five-year occupational demand projections for these greenhouse and nursery production occupations. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 1% through 2028. There is projected to be 848 jobs available annually.

Exhibit 3: Occupational Demand in Los Angeles and Orange Counties[3]

| Geography	2023 Jobs	2028 Jobs	2023-2028 Change	2023-2028 % Change	Annual Openings
Los Angeles	5,178	5,239	61	1%	565
Orange	2,651	2,667	16	1%	283
Total	**7,829**	**7,906**	**78**	**1%**	**848**

Wages:

The labor market endorsement in this report considers the entry-level hourly wages for these greenhouse and nursery production occupations in Orange County as they relate to the county's living wage. Los Angeles County wages are included below to provide a complete analysis of the LA/OC region.

At the direction of the California Community College Chancellor's Office, the living wage endorsement criteria in this report uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard, which the COE refers to as a living wage, to determine Orange County's living wage of $27.13, last updated in March 2024. Additionally, data for the MIT Living Wage, updated on February 14, 2024, is provided as a reference. Currently, the MIT Living Wage in Orange County is $30.48. Both figures, which account for geographic-specific costs of necessities such as housing, food, health care, and transportation to assess the cost of living, are notated in the exhibits below.

The typical entry-level hourly wage for these greenhouse and nursery production occupations ranges from $19.02 to 19.82 and the median wage ranges from $23.89 to $25.29, both of which are below the living wage for one adult ($27.13 in Orange County). The experienced hourly wage ranges from $34.64 to $39.00, which is above the living wage. Orange County's average wages are slightly below the average statewide wage of $28.90 for these occupations. Exhibit 4 shows the wage range for each of these greenhouse and nursery production occupations in Orange County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

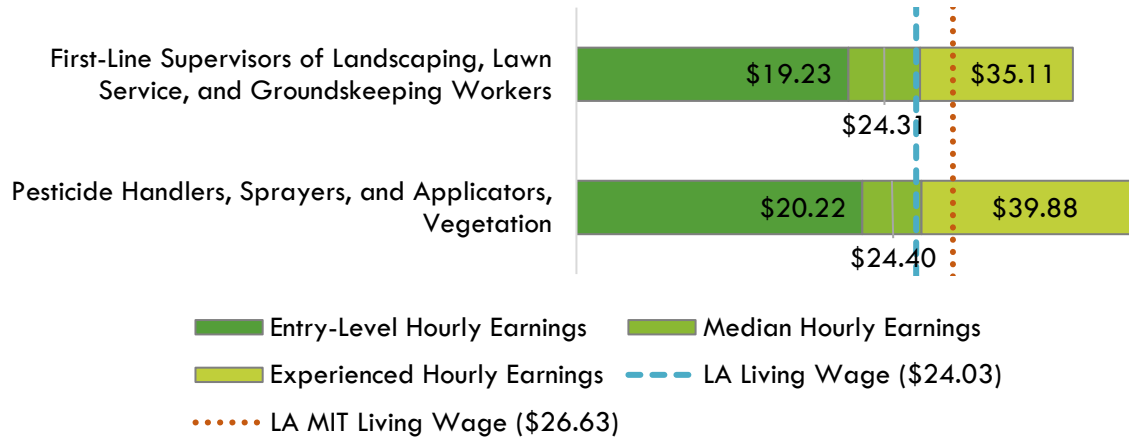### Exhibit 4: Wages by Occupation in Orange County
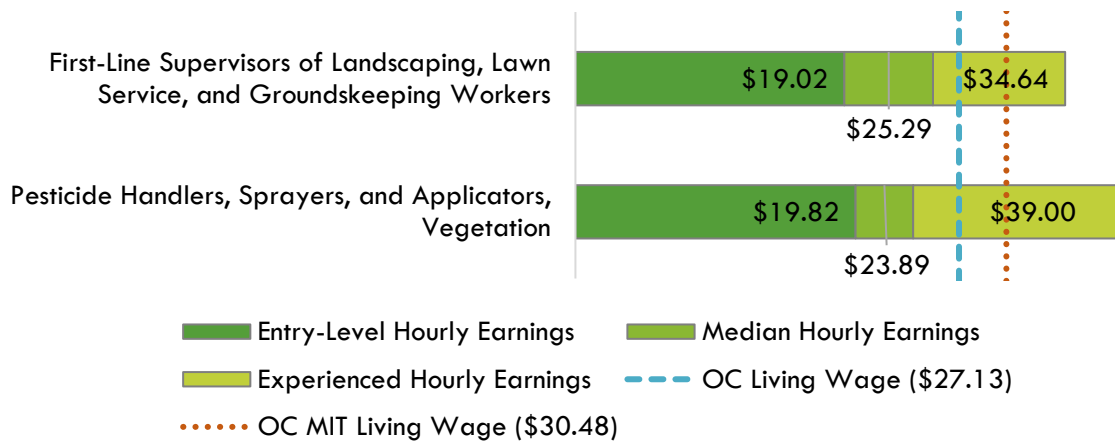
All the annual openings for these greenhouse and nursery production occupations have entry-level wages below the Self-Sufficiency Standard living wage for one adult ($24.03 in Los Angeles County). Typical entry-level hourly wages range between $19.23 and $20.22. However, the median wage ranges from $24.31 to $24.40, which is slightly above the living wage. Los Angeles County's average wages are

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

slightly below the average statewide wage of $28.90 for these occupations. Exhibit 5 shows the wage range for each of these greenhouse and nursery production occupations in Los Angeles County and how they compare to the regional living wage, sorted from lowest to highest entry-level wage.

Exhibit 5: Wages by Occupation in Los Angeles County

First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers: $19.23, $24.31, $35.11

Pesticide Handlers, Sprayers, and Applicators, Vegetation: $20.22, $24.40, $39.88

Legend:
- Entry-Level Hourly Earnings
- Median Hourly Earnings
- Experienced Hourly Earnings
- LA Living Wage ($24.03)
- LA MIT Living Wage ($26.63)

Resilient Jobs and U.S. News & World Report Best Jobs:

Exhibit 6 shows if each occupation is considered an Orange County Great Recession-Resilient, COVID-19 Pandemic Recession-Resilient Job, or a 2024 U.S. News & World Report (USN&WR) Best Job. Neither of these greenhouse and nursery production occupations met the criteria for any of the three designations.

Exhibit 6: Resilient Jobs and USN&WR Best Jobs Designations

Occupation	Great Recession-Resilient Job	COVID-19 Pandemic Recession-Resilient Job	2024 USN&WR Best Job
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	☐	☐	☐
Pesticide Handlers, Sprayers, and Applicators, Vegetation	☐	☐	☐

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.[4] 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

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

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 1,261 online job postings related to these greenhouse and nursery production occupations listed in the past 12 months. Exhibit 7 shows the number of job postings by occupation. The majority (93%) of job postings were *first-line supervisors of landscaping, lawn service, and groundskeeping workers* and 7% were *pesticide handlers, sprayers, and applicators, vegetation.*

Exhibit 7: Number of Job Postings by Occupation (n=1,261)

Occupation	Job Postings	Percentage of Job Postings
First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers	1,174	93%
Pesticide Handlers, Sprayers, and Applicators, Vegetation	87	7%
Total Postings	**1,261**	**100%**

The top employers in the region, by number of job postings, are shown in Exhibit 8.

Exhibit 8: Top Employers by Number of Job Postings (n=1,261)

Employer	Job Postings	Percentage of Job Postings
Landsystems	264	21%
Brightview	44	3%
TruGreen	20	2%
Starbucks	19	2%
Gothic Landscape	17	1%
Global Conductor	16	1%
Bemus Landscape	15	1%
Armstrong Garden Centers	12	1%
Archdiocese Los Angeles Ed Off	10	1%
Botanic Gardens Conservation International (Bgci)	10	1%

The top specialized, soft, and computer skills listed by those most frequently mentioned in job postings (denoted in parentheses) are shown in Exhibit 9.

Exhibit 9: Top Skills by Number of Job Postings (n=1,261)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Marketing (309)	Management (606)	Microsoft Excel (307)
Landscaping (288)	Operations (556)	Microsoft Outlook (293)
Business Development (263)	Customer Service (550)	Salesforce (262)
Data Collection (262)	Sales (447)	Customer Relationship Management (CRM) Software (256)
Salesforce (262)	English Language (394)	Microsoft Office (107)
Sales Prospecting (260)	Communication (389)	Microsoft Word (28)

Top Specialized Skills	Top Soft Skills	Top Computer Skills
Customer Relationship Management (CRM) Software (256)	Writing (353)	Microsoft PowerPoint (23)
Request For Proposal (256)	Organizational Skills (316)	Microsoft Access (18)
Business To Business (255)	Prioritization (314)	Project Management Software (18)
Business Intelligence (253)	Microsoft Excel (307)	JIRA (17)

Educational Attainment:

The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for *first-line supervisors of landscaping, lawn service, and groundskeeping workers* and *pesticide handlers, sprayers, and applicators, vegetation*. However, the national-level educational attainment data indicates between 27% and 30% of workers in the field have completed some college or an associate degree as their highest level of education. Exhibit 10 shows the educational attainment for each occupation, sorted by highest community college educational attainment to lowest.

Exhibit 10: National-level Educational Attainment for Occupations

First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers: 53% | 30% | 15% | 2%

Pesticide Handlers, Sprayers, and Applicators, Vegetation: 57% | 27% | 15% | 1%

■ High School Diploma or Less   ■ Some College or Associate Degree
■ Bachelor's Degree   ■ Graduate or Professional Degree
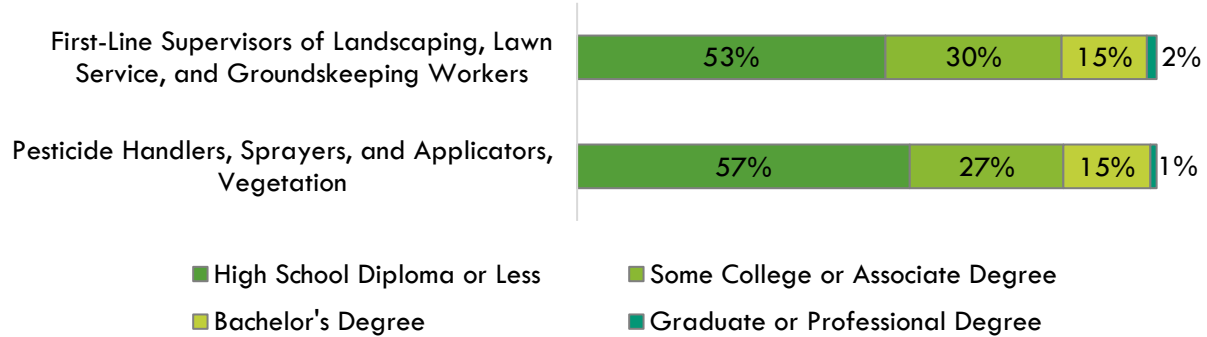
Of the 48% of the cumulative job postings for these greenhouse and nursery production occupations that listed a minimum education requirement in Los Angeles/Orange County, 63% (385) requested a bachelor's degree and 35% (213) requested a high school diploma, vocational training, or an associate degree.

Educational Supply

Community College Supply:

Exhibit 11 shows the three-year average number of awards conferred by community colleges in the related TOP codes:

- Horticulture (0109.00)
- Landscape Design and Maintenance (0109.10)
- Nursery Technology (0109.30)
- Turfgrass Technology (0194.00)

The colleges with the most completions in the region are Saddleback and Mt. San Antonio. Over the past 12 months, there was no related program recommendation request from regional community colleges.
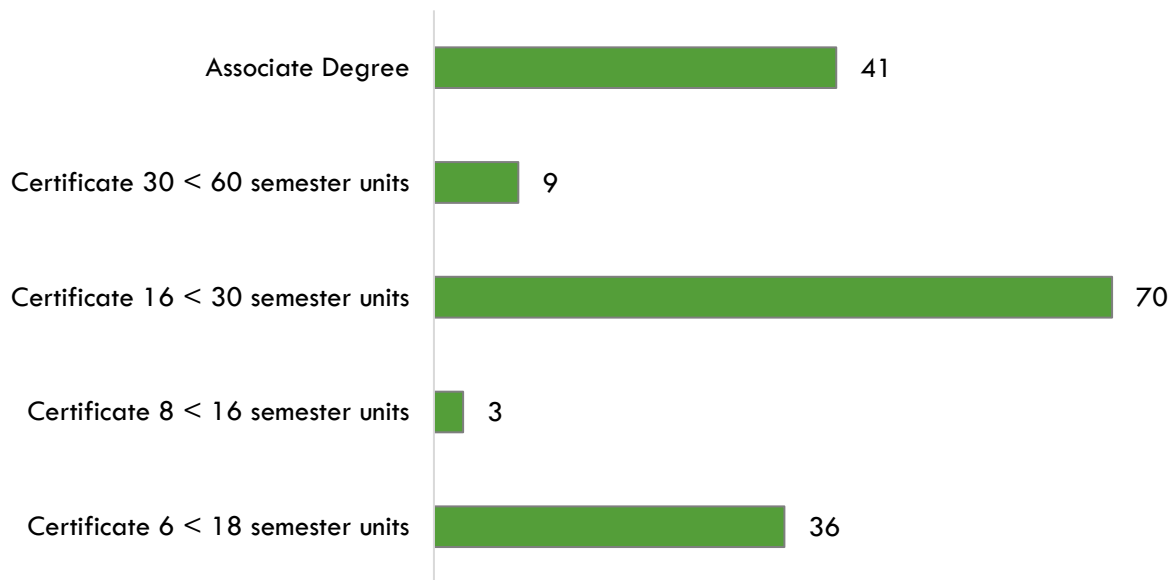
Exhibit 11: Regional Community College Awards (Certificates and Degrees), 2020-2023

TOP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
0109.00	Horticulture	El Camino	6	8	2	5
		LA Pierce	3	1	5	3
		Long Beach	7	20	17	15
		Mt San Antonio	5	19	9	11
		LA Subtotal	**21**	**48**	**33**	**34**
		Fullerton	1	1	0	1
		Orange Coast	10	15	11	12
		Saddleback	47	40	28	38
		OC Subtotal	**58**	**56**	**39**	**51**
		Supply Subtotal/Average	**79**	**104**	**72**	**85**
0109.10	Landscape Design and Maintenance	LA Pierce	1	0	0	0
		Mt San Antonio	26	41	35	34
		LA Subtotal	**27**	**41**	**35**	**34**
		Fullerton	2	4	4	3
		Orange Coast	1	6	1	3
		Saddleback	23	35	13	24
		OC Subtotal	**26**	**45**	**18**	**30**
		Supply Subtotal/Average	**53**	**86**	**53**	**64**
0109.30	Nursery Technology	Mt San Antonio	5	4	4	4
		LA Subtotal	**5**	**4**	**4**	**4**
		Fullerton	1	2	3	2
		OC Subtotal	**1**	**2**	**3**	**2**
		Supply Subtotal/Average	**6**	**6**	**7**	**6**
0194.00	Turfgrass Technology	Mt San Antonio	3	5	2	3
		LA Subtotal	**3**	**5**	**2**	**3**

TOP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
		-	-	-	-	-
		OC Subtotal	-	-	-	-
	Supply Subtotal/Average		3	5	2	3
	Supply Total/Average		141	201	134	159

Exhibit 12 shows the annual average community college awards by type from 2020-21 to 2022-23. The plurality of the awards are for certificates between 16 and less than 30 semester units, followed by associate degrees and certificates between 6 and less than 18 semester units.

Exhibit 12: Annual Average Community College Awards by Type, 2020-2023

- Associate Degree: 41
- Certificate 30 < 60 semester units: 9
- Certificate 16 < 30 semester units: 70
- Certificate 8 < 16 semester units: 3
- Certificate 6 < 18 semester units: 36

Community College Student Outcomes:

Exhibit 13 shows the Strong Workforce Program (SWP) metrics for nursery technology programs in North Orange County Community College District (NOCCCD), the Orange County Region, and California. Per the California Community Colleges Curriculum Inventory (COCI), NOCCCD has two programs under the nursery technology (0109.30) TOP code but does not currently offer courses under this TOP code. Therefore, student outcomes data is not available at the community college district level.

Of the 180 California nursery technology students in the 2021-22 academic year, 12% (21) attended an Orange County college. Orange County students that exited nursery technology programs in the 2021-22 academic year had lower median annual earnings ($25,711 or $12.36 per hour) compared to all nursery technology students in California ($35,700 or $17.16 per hour). Due to a low number of students, student outcomes data for living wage is not available for the Orange County region. However, 51% of nursery technology students attained the living wage statewide.

SWP Metric	NOCCCD	OC Region	California
SWP Students	N/A	21	180
SWP Students Who Earned 9 or More Career Education Units in the District in a Single Year	N/A	42%	50%
SWP Students Who Completed a Noncredit CTE or Workforce Preparation Course	N/A	Insufficient Data	Insufficient Data
SWP Students Who Earned a Degree or Certificate or Attained Apprenticeship Journey Status	N/A	Insufficient Data	13
SWP Students Who Transferred to a Four-Year Postsecondary Institution (2019-20)	N/A	Insufficient Data	11
SWP Students with a Job Closely Related to Their Field of Study (2019-20)	N/A	100%	80%
Median Annual Earnings for SWP Exiting Students (2020-21)	N/A	$25,711 ($12.36)	$35,700 ($17.16)
Median Change in Earnings for SWP Exiting Students (2020-21)	N/A	39%	(1%)
SWP Exiting Students Who Attained the Living Wage (2020-21)	N/A	Insufficient Data	51%

Non-Community College Supply:

To comprehensively analyze the regional supply, it is crucial to include data from other institutions offering nursery technology programs. However, no awards were under the following related Classification of Instructional Programs (CIP) codes in the past three years:

- Applied Horticulture/Horticulture Operations, General (01.0601)
- Landscaping and Groundskeeping (01.0605)
- Plant Nursery Operations and Management (01.0606)
- Turf and Turfgrass Management (01.0607)
- Golf Course Operation and Grounds Management (31.0302)

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[5] All SWP metrics are for 2021-22 unless otherwise noted.

Regional Demographics

This section examines demographic data for the OC population and occupational data, to identify potential diversity and equity issues addressable by community college programs. Due to the low number of students within the Orange County region, there is no student demographic data.
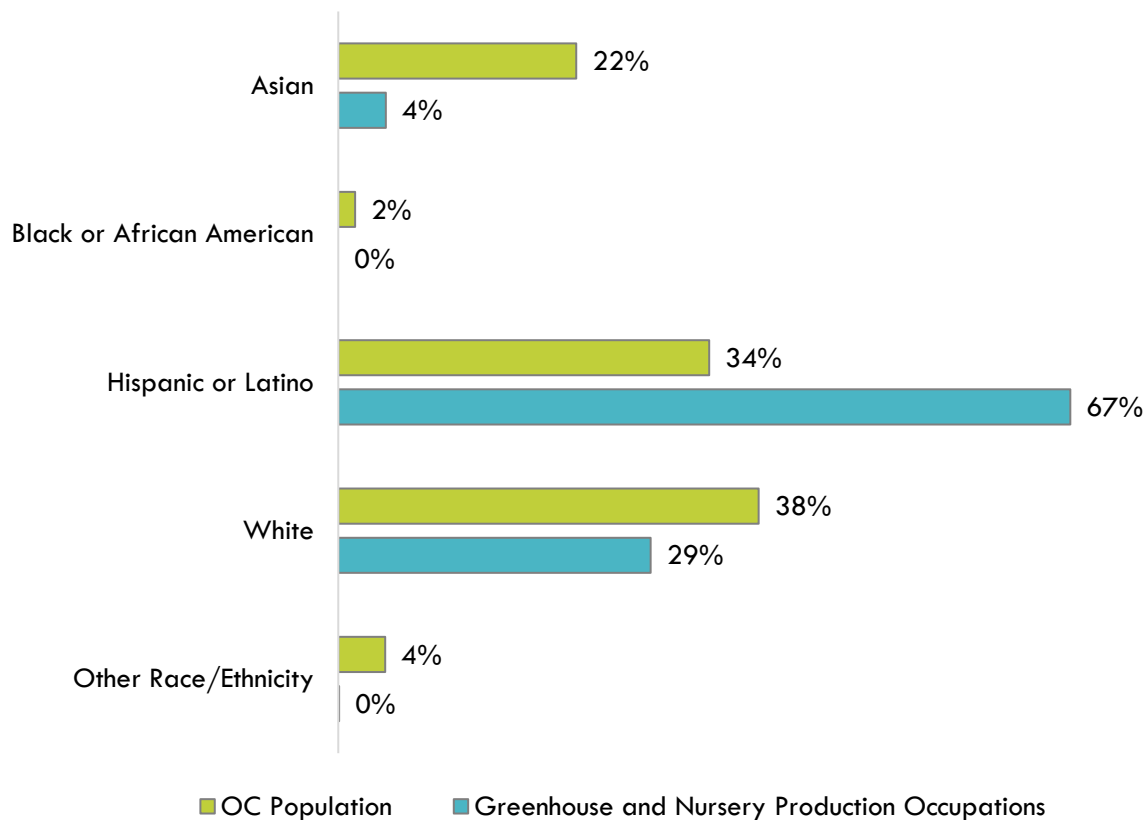
Ethnicity:

Exhibit 14 compares the ethnicity of the overall Orange County population and occupation-specific data for the two greenhouse and nursery production occupations included in this report.

Notably, 67% of workers employed in these greenhouse and nursery production occupations are Hispanic or Latino, which is early double the population (34%). Conversely, the plurality of the population (38%) is white, which is higher than the workers in the field (29%).

Examining disaggregated data for each occupation (not shown), the occupation with the highest percentage of Hispanic or Latino workers is *pesticide handlers, sprayers, and applicators, vegetation* (91%), which has the highest entry-level wages of the two greenhouse and nursery production occupations. *First-line supervisors of landscaping, lawn service, and groundskeeping* have the highest percentage of white workers (34%). This occupation also has the lowest entry-level wages of the two greenhouse and nursery production occupations.

Exhibit 14: Program and County Demographics by Ethnicity

Ethnicity	OC Population	Greenhouse and Nursery Production Occupations
Asian	22%	4%
Black or African American	2%	0%
Hispanic or Latino	34%	67%
White	38%	29%
Other Race/Ethnicity	4%	0%

■ OC Population   ■ Greenhouse and Nursery Production Occupations
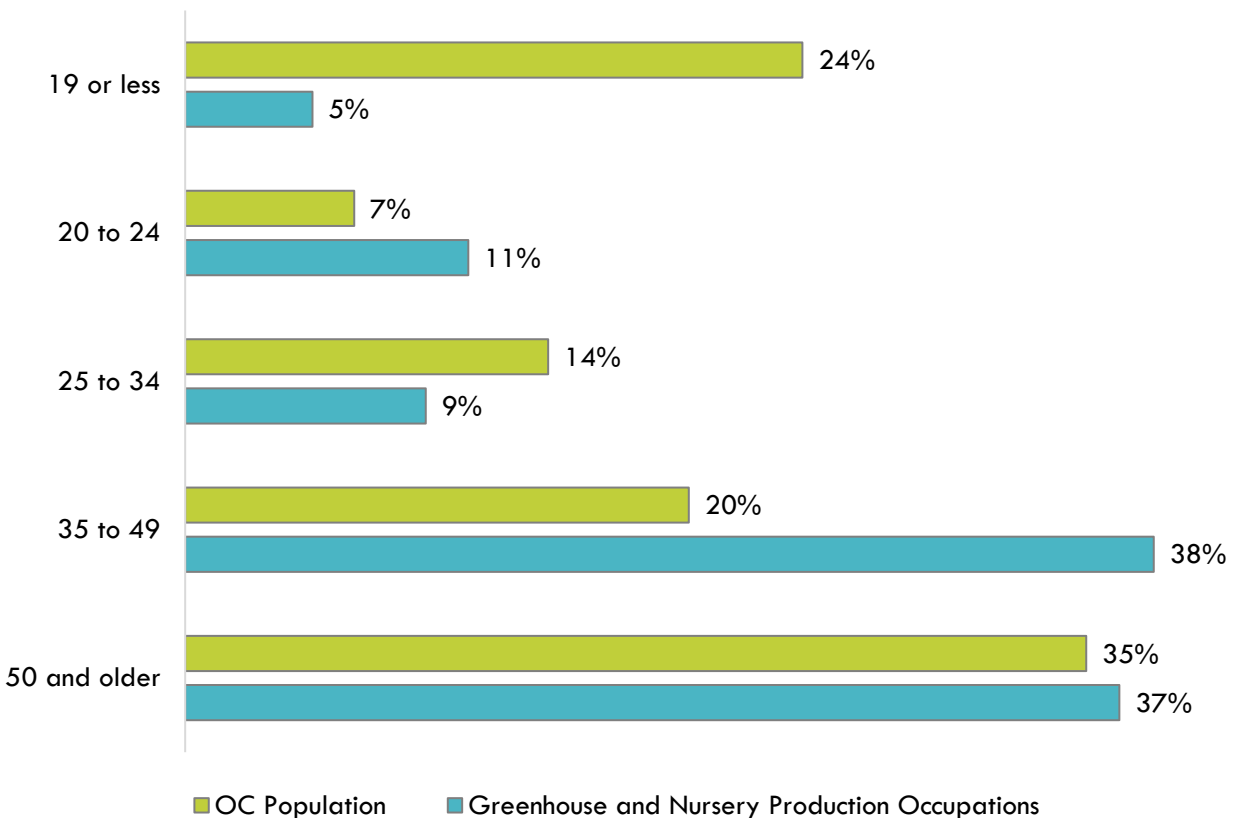
Age:

Exhibit 15 compares the age of the overall Orange County population and occupation-specific data for the two greenhouse and nursery production occupations included in this report.

Nearly, 38% of workers in these greenhouse and nursery production occupations are aged 35 to 49, which is almost double the population (20%). Conversely, 37% of workers in the field are aged 50 and older, which is slightly above the population (35%).

Examining disaggregated data for each occupation (not shown), the occupation with the highest percentage of workers aged 35 or older is *first-line supervisors of landscaping, lawn service, and groundskeeping* (80%), which has the lowest entry-level wages of the two greenhouse and nursery production occupations. Conversely, the occupation with the highest percentage of workers aged 20 to 24 was *pesticide handlers, sprayers, and applicators, vegetation* (44%). This occupation also has the highest entry-level wages of the two greenhouse and nursery production occupations.

Exhibit 15: Program and County Demographics by Age

19 or less
- OC Population: 24%
- Greenhouse and Nursery Production Occupations: 5%

20 to 24
- OC Population: 7%
- Greenhouse and Nursery Production Occupations: 11%

25 to 34
- OC Population: 14%
- Greenhouse and Nursery Production Occupations: 9%

35 to 49
- OC Population: 20%
- Greenhouse and Nursery Production Occupations: 38%

50 and older
- OC Population: 35%
- Greenhouse and Nursery Production Occupations: 37%

Legend: ■ OC Population   ■ Greenhouse and Nursery Production Occupations

Sex:

Exhibit 16 compares the sex of the overall Orange County population and occupation-specific data for the two greenhouse and nursery production occupations included in this report.

Though the population is split evenly between women and men, only 5% of workers in the field are women.

Examining disaggregated data for each occupation (not shown), the occupation with the largest percentage of women is *first-line supervisors of landscaping, lawn service, and groundskeeping* (6%). This occupation also has the lowest entry-level wages of the two greenhouse and nursery production occupations.

Exhibit 16: Program and County Demographics by Sex

	Female	Male	Masked or Unknown
OC Population	50%	50%	
Greenhouse and Nursery Production Occupations	5%	95%	
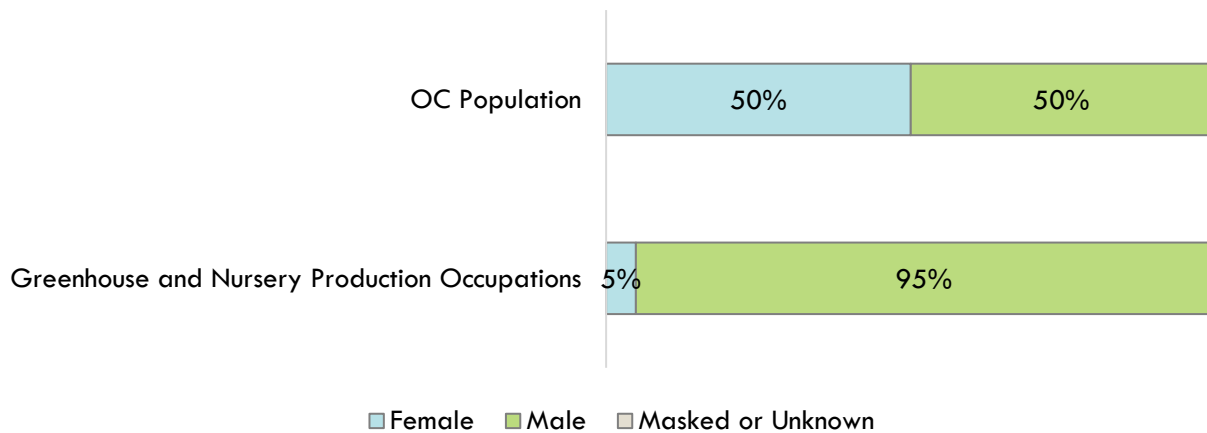
Appendix A: Methodology

The OC 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 OC 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 OC 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 OC 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	"Living Wage" measures the income necessary for an individual or family to afford basic expenses by assessing the costs such as housing, food, child care, health care, transportation, and taxes. Per the CCCCCO's this report's endorsement criteria uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard last updated in March 2024, which is $27.13 per hour ($56,451 annually) in Orange County. For more information, see: http://www.selfsufficiencystandard.org/California The MIT Living Wage, updated on February 14, 2024, is a nationally recognized living wage metric and is provided for reference. The current MIT Living Wage in Orange County is $30.48. For more information, see: https://livingwage.mit.edu/counties/06059
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 CCCCO 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	LaunchBoard, 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://www.calpassplus.org/LaunchBoard/Home.aspx

Data Type	Source
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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