



Nursery and Greenhouse Occupations Labor Market Information Report Diablo Valley College

Prepared by the San Francisco Bay Center of Excellence for Labor Market Research
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Recommendation

Based on all available data, there appears to be an “undersupply” of Nursery and Greenhouse workers compared to the demand for this cluster of occupations in the Bay region and in the East Bay sub-region (Alameda, Contra Costa counties). There is a projected annual gap of about 10,521 students in the Bay region and 280 students in the East Bay Sub-Region.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0109.30 -Nursery Technology programs in the state and region. It is recommended that these data be reviewed to better understand how outcomes for students taking courses on this TOP code compare to potentially similar programs at colleges in the state and region, as well as to outcomes across all CTE programs at Diablo Valley College and in the region.

This report profiles Nursery and Greenhouse Occupations in the 12 county Bay region and in the East Bay sub-region for a proposed new Nursery and Greenhouse Entrepreneurship program at Diablo Valley College.

- **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. Excludes “First-Line Supervisors of Farming, Fishing, and Forestry Workers” (45-1011).
Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: None
Percentage of Community College Award Holders or Some Postsecondary Coursework: 32%
- **Pesticide Handlers, Sprayers, and Applicators, Vegetation (37-3012):** Mix or apply pesticides, herbicides, fungicides, or insecticides through sprays, dusts, vapors, soil incorporation, or chemical application on trees, shrubs, lawns, or botanical crops. Usually requires specific training and State or Federal certification. Excludes “Commercial Pilots” (53-2012) who dust or spray crops from aircraft.
Entry-Level Educational Requirement: High school diploma or equivalent
Training Requirement: Moderate-term on-the-job training
Percentage of Community College Award Holders or Some Postsecondary Coursework: 21%
- **Farmworkers and Laborers, Crop, Nursery, and Greenhouse (45-2092):** Manually plant, cultivate, and harvest vegetables, fruits, nuts, horticultural specialties, and field crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; or cleaning, grading, sorting, packing, and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities. Excludes “Graders and Sorters, Agricultural Products” (45-2041) and “Forest, Conservation, and Logging

Workers" (45-4011 through 45-4029).

Entry-Level Educational Requirement: No formal educational credential

Training Requirement: Short-term on-the-job training

Percentage of Community College Award Holders or Some Postsecondary Coursework: 14%

Occupational Demand

Table 1. Employment Outlook for Nursery and Greenhouse Occupations in Bay Region

Occupation	2019 Job	2024 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Farmers, Ranchers, and Other Agricultural Managers	10,705	10,690	-15	-0%	5,565	1,113	\$ 20.05	\$ 40.51
Pesticide Handlers, Sprayers, and Applicators, Vegetation	665	718	53	8%	499	100	\$ 15.82	\$ 21.57
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	53,466	55,556	2,090	4%	46,625	9,325	\$ 12.63	\$ 14.25
Total	64,836	66,964	2,128	3%	52,689	10,538	\$13.89	\$18.66

Source: EMSI 2020.4

Bay Region includes: Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

Table 2. Employment Outlook for Nursery and Greenhouse Occupations in East Bay Sub-region

Occupation	2019 Job	2024 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Farmers, Ranchers, and Other Agricultural Managers	333	348	15	5%	191	38	\$ 18.73	\$ 49.08
Pesticide Handlers, Sprayers, and Applicators, Vegetation	146	153	7	5%	104	21	\$ 17.64	\$ 34.91
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	1,346	1,373	27	2%	1,152	230	\$ 13.58	\$ 17.14
Total	1,825	1,874	49	3%	1,447	289	\$14.84	\$24.39

Source: EMSI 2020.4

East Bay Sub-Region includes: Alameda, Contra Costa Counties

Job Postings in Bay Region and East Bay Sub-Region

Table 3. Number of Job Postings by Occupation for latest 12 months (Dec 2019-Nov 2020)

Occupation	Bay Region	East Bay
Farmworkers and Laborers, Crop	174	23
Farm and Ranch Managers	148	21
Pesticide Handlers, Sprayers, and Applicators, Vegetation	81	42
Aquacultural Managers	62	21
Nursery and Greenhouse Managers	55	6
Nursery Workers	10	3

Source: Burning Glass

Table 4a. Top Job Titles for Nursery and Greenhouse Occupations for latest 12 months (Dec 2019-Nov 2020)

Bay Region

Title	Bay	Title	Bay
Picker	25	Viticulturist	8
Cultivation Technician	17	Pesticide Applicator	7

Title	Bay	Title	Bay
Exterior Plant Care Specialist	15	Horticulturist	7
Growth Marketing	11	Operator, Equipment II	6
Greenhouse Manager	10	Nursery Manager	6
Farm Manager	10	Lawn & Plant Care Specialist	6
Spray Technician	9	Farm Owner	6
Harvest Cellar	9	Cultivator	6
Grower	9	Cannabis Cultivator	6

Source: Burning Glass

Table 4b. Top Job Titles for Nursery and Greenhouse Occupations for latest 12 months (Dec 2019-Nov 2020) East Bay Sub-Region

Title	East Bay	Title	East Bay
Exterior Plant Care Specialist	15	Marketeer At Farmer Markets With Vie	2
Picker	13	Laboratory Assistant Fish Culturist	2
Cultivation Technician	9	Greenhouse Worker	2
Spray Technician	6	Field Director - Bay Market	2
Lawn Specialist	5	Farmer's Market Seller	2
Lawn & Plant Care Specialist	4	Farmer Market Vendor	2
Lawn And Plant Care Specialist	3	Farm Laborer	2
Cannabis Cultivation Technician	3	Wind Farm Manager	1
Urban Farmer	2	Vegetation Management Technician	1

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Nursery and Greenhouse Workers in Bay Region

Industry – 6 Digit NAICS (No. American Industry Classification) Codes	Jobs in Industry (2019)	Jobs in Industry (2024)	% Change (2019-24)	% Occupation Group in Industry (2019)
Crop Production	21,369	21,114	-1%	33%
Farm Labor Contractors and Crew Leaders	20,718	22,337	8%	32%
Postharvest Crop Activities (except Cotton Ginning)	9,671	10,427	8%	15%
Farm Management Services	2,360	2,330	-1%	4%
Crop Harvesting, Primarily by Machine	1,816	1,781	-2%	3%
Animal Production	1,432	1,398	-2%	2%
Soil Preparation, Planting, and Cultivating	1,389	1,491	7%	2%
Wineries	1,330	1,322	-1%	2%
Landscaping Services	533	571	7%	1%
Nursery, Garden Center, and Farm Supply Stores	474	455	-4%	1%

Source: EMSI 2020.4

Table 6. Top Employers Posting Nursery and Greenhouse Occupations in Bay Region and East Bay Sub-Region (Dec 2019-Nov 2020)

Employers	Bay	Employer	East Bay
Deloitte	14	Trugreen	7
Steritech	10	Steritech	7
Constellation Brands Incorporated	10	Meadows In Bloom	5
Trugreen	7	Schnitzer Steel Industries	3
University California	6	Rentokil North America	3
Trinchero Family Estates	6	Rentokil Initial Pty Ltd	3
Pepperidge Farm	6	Anheuser-Busch Companies, Inc.	3
Meadows In Bloom	6	105Th Management	3
Lawrence Berkeley Lab	6	Vangst	2
Stanford University	5	University California	2
Speedling Incorporated	5	Scs Global Services	2
Schnitzer Steel Industries	4	Rentokil North American Pest Control	2
Restaurant Depot	4	Rentokil	2
Rentokil North America	4	Realogy Franchise Group LLC	2

Source: Burning Glass

Educational Supply

There are five (5) community colleges in the Bay Region issuing 17 awards on average annually (last 3 years ending 2018-19) on TOP 0109.30 -Nursery Technology. In the East Bay Sub-Region, there are two (2) community colleges that issued 9 awards on average annually (last 3 years) on this TOP code.

Table 7. Community College Awards on TOP 0109.30 -Nursery Technology in Bay Region

College	Subregion	Associate	Certificate Low	Total
Cabrillo	SC - Monterey	0	4	4
Diablo Valley	East Bay	0	5	5
Merritt	East Bay	2	2	4
San Francisco	Mid-Peninsula	1	1	2
Santa Rosa	North Bay	1	1	2
Total	-	4	13	17

Source: Data Mart

Note: The annual average for awards is 2016-17 to 2018-19.

Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 10,538 annual openings for the Nursery and Greenhouse occupational cluster and 17 annual (3-year average) awards for an annual undersupply of 10,521 students. In the East Bay Sub-Region, there is also a gap with 289 annual openings and 9 annual (3-year average) awards for an annual undersupply of 280 students.

Student Outcomes

Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0109.30 -Nursery Technology

2017-18	Bay All CTE Program	Diablo Valley All CTE Program	State 0109.30	Bay 0109.30	East Bay 0109.30	Diablo Valley 0109.30
% Employed Four Quarters After Exit	67%	60%	59%	NA	NA	NA
Median Quarterly Earning Two Quarters After Exit	\$11,466	\$8,979	\$6,073	NA	NA	NA
Median % Change in Earning	31%	35%	25%	NA	NA	NA
% of Students Earning a Living Wage	53%	39%	43%	NA	NA	NA

Source: Launchboard Pipeline (version available on August 2020)

Skills, Certifications and Education

Table 9. Top Skills for Nursery and Greenhouse Occupations in Bay Region (Dec 2019-Nov 2020)

Skill	Posting	Skill	Posting
Repair	65	Experiments	29
Customer Service	63	Packaging	29
Scheduling	61	Staff Management	28
Cleaning	60	Equipment Maintenance	26
Fertilizers	57	Personal Protective Equipment (PPE)	25
Forklift Operation	56	Record Keeping	25
Lifting Ability	54	Quality Management	22
Budgeting	47	Farm Management	21
Sales	41	Power Tools	21
Quality Assurance and Control	36	Spreadsheets	21
Biology	34	Hand Tools	20
Project Management	33	Machinery	20
Basic Mathematics	30	Backpack Sprayers	19
Data Collection	30	Customer Contact	19

Source: Burning Glass

Table 10. Certifications for Nursery and Greenhouse Occupations in Bay Region (Dec 2019-Nov 2020)

Skill	Posting	Skill	Posting
Driver's License	161	Commercial Pest Control Certification	2
Certified Pest Control	15	Security Clearance	1
Applicators License	13	OSHA Safety 10 Hour	1
First Aid Cpr Aed	7	Neonatal Resuscitation Program (NRP)	1
Real Estate Certification	3	Management Education	1
OSHA Forklift Certification	3	Food Handler Certification	1
CDL Class A	3	Certified Arborist	1
Water Safety Instructor	2	Certified Animal Laboratory Technician	1
Food Service Certification	2	American Heart Association Certification	1
Contractors License	2	American Association For Laboratory Animal Science (AALAS)	1

Source: Burning Glass

Note: 63% of records have been excluded because they do not include a certification. As a result, the chart below may not be representative of the full sample.

Table 11. Education Requirements for Nursery and Greenhouse Occupations in Bay Region (Dec 2019-Nov 2020)

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	123	58%
Associate's degree	8	4%
Bachelor's degree	79	37%
Master's degree	2	1%

Source: Burning Glass

Note: 60% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

Methodology

Occupations for this report were identified by use of skills listed in O*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCCO Data Mart.

Sources

O*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard www.calpassplus.org/Launchboard/

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

Chancellor's Office MIS system

Contacts

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