**Nursery, Greenhouse and Grower Operations Occupations**

**Labor Market Information Report**

Prepared by the San Francisco Bay Center of Excellence

for Labor Market Research

December 2017

# Recommendation

Based on all available data included in this report, there appears to be a significant undersupply of Nursery, Greenhouse and Grower Operations workers compared to the demand for this cluster of occupations in the Bay region and the East Bay sub-region. The annual gap between demand and supply is about 1,092 in the region and 166 in the East Bay sub-region. This undersupply warrants the addition of the proposed Nursery, Greenhouse and Grower Operations certificate at Las Positas College.

This report also provides student outcomes data on employment and earnings for Horticulture programs in the region and state (Note: student outcomes data is not available for TOP 0109.30 where Nursery Technology programs are coded). It is recommended that this data be reviewed to better understand how student outcomes for Horticulture programs at colleges in the region and sub-region compare to the state programs in this area as well as outcomes across all programs in the region.

# Introduction

This report profiles Nursery, Greenhouse and Grower Operations occupations in the 12 county Bay Region and the East Bay Sub-Region (Alameda and Contra Costa counties) for a new certificate at Las Positas College.

* **Farmers, Ranchers and Other Agricultural Managers (SOC 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.

*Entry-Level Educational Requirement:* *High School Diploma or Equivalent*

*Training Requirement:* *None*

*Percentage of Community College Award Holders or Some Postsecondary Coursework:* 30%

* **First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers (SOC 37-1012)**: Directly supervise and coordinate activities of workers engaged in landscaping or groundskeeping activities. Work may involve reviewing contracts to ascertain service, machine, and workforce requirements; answering inquiries from potential customers regarding methods, material, and price ranges; and preparing estimates according to labor, material, and machine costs.

*Entry-Level Educational Requirement:* *High School Diploma or Equivalent*

*Training Requirement:* *None*

*Percentage of Community College Award Holders or Some Postsecondary Coursework:* 34%

* **Pesticide Handlers, Sprayers, and Applicators, Vegetation (SOC 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.

*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:* 20%

# Occupational Demand

**Table 1. Employment Outlook for Nursery, Greenhouse and Grower Operations Occupations in Bay Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2016 Jobs | 2021 Jobs | 5-Yr Change | 5-Yr % Change | 5-year Open-ings | Annual Open-ings | 10% Hrly Wage | Median Hrly Wage |
|  | |  | |
| Farmers, Ranchers, and Other Agricultural Managers | 7,156 | 6,880 | (276) | (4%) | 2,958 | 592 | $10.24 | $14.94 |
| First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers | 4,044 | 4,160 | 116 | 3% | 1,831 | 366 | $13.08 | $17.64 |
| Pesticide Handlers, Sprayers, and Applicators, Vegetation | 1,106 | 1,173 | 67 | 6% | 740 | 148 | $12.81 | $18.67 |
| **Total** | **12,306** | **12,213** | **(93)** | **(1%)** | **5,528** | **1,106** | **$11.41** | **$16.16** |

*Source: EMSI 2017.3***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, Greenhouse and Grower Operations Occupations in East Bay Sub-Region**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation | 2016 Jobs | 2021 Jobs | 5-Yr Change | 5-Yr % Change | 5-year Open-ings | Annual Open-ings | 10% Hrly Wage | Median Hrly  Wage |
|  | |  | |
| Farmers, Ranchers, and Other Agricultural Managers | 187 | 142 | (45) | (24%) | 66 | 13 | $10.03 | $13.98 |
| First-Line Supervisors of Landscaping, Lawn Service, and Groundskeeping Workers | 1,361 | 1,412 | 51 | 4% | 620 | 124 | $13.27 | $18.28 |
| Pesticide Handlers, Sprayers, and Applicators, Vegetation | 270 | 283 | 13 | 5% | 176 | 35 | $11.05 | $21.51 |
| **Total** | **1,818** | **1,837** | **19** | **1%** | **862** | **172** | **$12.60** | **$18.31** |

*Source: EMSI 2017.3***East Bay Sub-Region** includes Alameda and 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 (Nov. 2016 – Oct. 2017)**

|  |  |  |
| --- | --- | --- |
| Occupation | Bay Region | East Bay |
| Farm and Ranch Managers (11-9013.02) | 92 | 16 |
| First-Line Supervisors of Landscaping, Lawn Service & Groundskeeping Workers (37-1012.00) | 49 | 20 |
| Pesticide Handlers, Sprayers, and Applicators, Vegetation (37-3012.00) | 27 | 13 |
| Aquacultural Managers (11-9013.03) | 18 | 5 |
| Nursery and Greenhouse Managers (11-9013.01) | 13 | 8 |
| **Total** | **199** | **62** |

*Source: Burning Glass*

**Table 4. Top Job Titles for Nursery, Greenhouse and Grower Operations Occupations for latest 12 months (Nov. 2016 – Oct. 2017)**

|  |  |  |
| --- | --- | --- |
| Common Title | Bay Region | East Bay |
| Viticulturist | 14 | 0 |
| Crew Leader | 9 | 2 |
| Service Manager | 7 | 4 |
| Commercial Branch Service Manager | 6 | 1 |
| Incubation Specialist | 6 | 0 |
| Commercial Lawn Specialist | 5 | 5 |
| Landscape Foreman | 4 | 4 |
| Spray Technician | 4 | 4 |

*Source: Burning Glass*

# Industry Concentration

**Table 5. Industries hiring Nursery, Greenhouse and Grower Operations Workers in Bay Region**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 6 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2016) | Jobs in Industry (2021) | % Change (2016-21) | % in Industry (2016) |
| Crop Production (111000) | 6,251 | 6,075 | (3%) | 50.8% |
| Landscaping Services (561730) | 3,308 | 3,353 | 1% | 26.9% |
| Animal Production and Aquaculture (112000) | 518 | 412 | (20%) | 4.2% |
| Local Government, Excluding Education and Hospitals (903999) | 409 | 436 | 7% | 3.3% |
| Farm Labor Contractors and Crew Leaders (115115) | 206 | 235 | 14% | 1.7% |
| Exterminating and Pest Control Services (561710) | 132 | 131 | (1%) | 1.1% |
| Golf Courses and Country Clubs (713910) | 113 | 119 | 5% | 0.9% |
| Farm Management Services (115116) | 104 | 112 | 8% | 0.8% |

*Source: EMSI 2017.3*

**Table 6. Top Employers Posting Jobs in Bay Region and East Bay for latest 12 months (Nov. 2016 – Oct. 2017)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Employer** | **Bay Region** | **Employer** | **East Bay** |
| ServiceMaster | 13 | Trugreen | 7 |
| Trugreen | 9 | The Brickman Group, Ltd | 6 |
| The Brickman Group, Ltd | 8 | ServiceMaster | 5 |

*Source: Burning Glass*

# Educational Supply

On the supply side, there are five Community Colleges issuing 14 awards annually for Nursery Technology (TOP 0109.30). There may be some colleges who list their Nursery Technology program and the related awards on the 4 digit TOP code for Horticulture (TOP 0109.00), so it is possible there is some additional supply not reflected in these numbers.

**Table 7. Nursery, Greenhouse and Grower Operations Programs on TOP 0109.30 - Nursery Technology in Bay Region**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | CC Headcount | Associate Degrees | Certificates or Other Credit Awards | Total Awards |
| Cabrillo | SC & Monterey | n<10 or on another TOP | 0 | 4 | 4 |
| Diablo Valley | East Bay | n<10 or on another TOP | 2 | 0 | 2 |
| Merritt | East Bay | n<10 or on another TOP | 1 | 3 | 4 |
| San Francisco | Mid-Peninsula | n<10 or on another TOP | 1 | 0 | 1 |
| Santa Rosa | North Bay | n<10 or on another TOP | 0 | 3 | 3 |
| **Total Bay Region** | |  | **4** | **10** | **14** |
| **Total East Bay Sub-Region** | |  | **3** | **3** | **6** |

# *Source: IPEDS, Data Mart and Launchboard*

NOTE: For Community Colleges, the annual average for Associate Degrees and Certificates is 2014-17. There appears to be no programs at Other Educational Postsecondary Institutes based on a crosswalk of TOP to CIP codes.

# Gap Analysis

The labor market gap is significant in the Bay region for this cluster of occupation with total annual openings of 1,106 and annual supply of 14 awards. This represents an undersupply of about 1,092 students. In the East Bay sub-region, there is also a gap with total annual openings of 172 and annual supply of 6 awards, for a gap of 166.

# Student Outcomes

Student Outcomes data from Launchboard is not available for students who took courses on Nursery Technology (TOP code 0109.30) in the Bay region. It would seem that the courses are coded on other TOP 06 or the TOP 04 code Horticulture (TOP 0109.00). Therefore, student outcomes data is shown for TOP 0109.00. The following is a summary of the employment and earnings data presented in Table 8:

* The percentage of students, who took courses on the TOP 0109.00, were employed four quarters after exit in 2014-15 at a lower percentage in the East Bay sub-region than in the Bay region. Santa Rosa Junior College was the top performing college on this metric, with 72% of their students employed four quarters after exit.
* Cabrillo College students received an impressive 81% increase in earnings after taking courses on TOP 0109, compared to the median regional increase of 27%.
* The percentage of students earning a living wage was slightly higher in the East Bay sub-region than in the Bay Region.

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on Horticulture (TOP 0109.00)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **2014-15** | **Bay Region (All Programs)** | **State (0109)** | **Bay Region (0109)** | **East Bay Sub-Region (0109)** | **Top College in Bay Region (0109) issuing awards on 0109.30 Nursery Technology** | |
| % Employed Four Quarters After Exit | 68% | 54% | 55% | 50% | Santa Rosa | 72% |
| Median Earnings Two Quarters After Exit | $12,640 | $7,460 | $8,860 | $8,760 | City College of San Francisco | $11,620 |
| Median % Change in Earnings | 37% | 24% | 27% | 20% | Cabrillo | 81% |
| % of Students Earning a Living Wage | 51% | 47% | 47% | 50% | Merritt | 53% |

*Source: Launchboard*

# Skill & Certifications

**Table 9. Top Skills for Nursery, Greenhouse and Grower Operations Occupations in the Bay Region (Nov. 2016 – Oct. 2017)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Skill** | **Latest 12 Mos. Postings** | **Skill** | **Latest 12 Mos. Postings** | **Skill** | **Latest 12 Mos. Postings** |
| Irrigation | 40 | Repair | 20 | Biology | 13 |
| Budgeting | 34 | Supervisory Skills | 18 | Customer Service | 13 |
| Scheduling | 34 | Microsoft Excel | 16 | Data Collection | 13 |
| Fertilizers | 26 | Project Management | 16 | Inventory Maintenance | 13 |
| Inspection | 26 | Lawn Care | 15 | Labeling | 13 |
| Customer Contact | 24 | Algebra | 13 | Farm Management | 12 |

*Source: Burning Glass*

**Table 10. Certifications for Nursery, Greenhouse and Grower Operations Occupations in the Bay Region (Nov. 2016 – Oct. 2017)**

Note: 87% 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.

|  |  |  |  |
| --- | --- | --- | --- |
| **Skill** | **Latest 12 Mos. Postings** | **Skill** | **Latest 12 Mos. Postings** |
| Pest Control Applicator | 13 | Certified Pest Control | 2 |
| Commercial Driver’s License | 4 | Certified Arborist | 2 |
| First Aid CPR AED | 3 | Applicator’s License | 2 |
| Landscape Architect License | 2 | CDL Class C | 2 |

**Table 11. Education Requirements in Bay Region**

Note: 58% 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.

|  |  |  |
| --- | --- | --- |
| **Education (minimum advertised)** | **Latest 12 Mos. Postings** | **% of Total Indicating Ed. Level** |
| High school or vocational training | 36 | 43% |
| Associate Degree | 2 | 2% |
| Bachelor’s Degree | 46 | 55% |

*Source: Burning Glass*

# 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 CCCCO Data Mart.

# Sources

O\*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard [www.calpassplus.org/Launchboard/](http://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

For more information, please contact:

* Karen Beltramo, Data Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), [karen@baccc.net](mailto:karen@baccc.net) or (831) 332-1253
* John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, [jcarrese@ccsf.edu](mailto:jcarrese@ccsf.edu) or (415) 452-5529