

**Labor Market Analysis for Program Recommendation**

**Sustainable Crop Management Occupations**

**Hartnell College**

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

**August 2022**

## Recommendation

Based on all available data, there appears to be an “undersupply” of Sustainable Crop Management workers compared to the demand for this cluster of occupations in the Bay region and in the SC-Monterey sub-region (Monterey, San Benito, Santa Cruz counties). There is a projected annual gap of about 1,300 students in the Bay region and 871 students in the SC-Monterey Sub-Region.

## Introduction

This report provides student outcomes data on employment and earnings for TOP 0103.00 Plant Science 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 Hartnell College and in the region.

This report profiles Sustainable Crop Management Occupations in the 12 county Bay region and in the SC-Monterey sub-region for a proposed new program at Hartnell 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%

## Occupational Demand

**Table 1. Employment Outlook for Sustainable Crop Management Occupations in Bay Region**

| **Occupation** | **2020 Jobs** | **2025 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 | 12,622 | 12,645 | 23 | 0% | 6,503 | 1,301 | $12 | $16 |
| **Total** | **12,622** | **12,645** | **23** | **0%** | **6,503** | **1,301** | **$12** | **$16** |
| Source: EMSI 2022.1 | | | | | | | | |

**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 Sustainable Crop Management Occupations in SC-Monterey Sub-region**

| **Occupation** | **2020 Jobs** | **2025 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 | 8,414 | 8,522 | 108 | 1% | 4,361 | 872 | $12 | $16 |
| **Total** | **8,414** | **8,522** | **108** | **1%** | **4,361** | **872** | **$12** | **$16** |
| Source: EMSI 2022.1 | | | | | | | | |

**SC-Monterey Sub-Region includes:** Monterey, San Benito, Santa Cruz Counties

### Job Postings in Bay Region and SC-Monterey Sub-Region

**Table 3. Number of Job Postings by Occupation for latest 12 months (Aug 2021 - July 2022)**

| **Occupation** | **Bay Region** | **SC-Monterey** |
| --- | --- | --- |
| Farm and Ranch Managers | 236 | 30 |
| Aquacultural Managers | 116 | 17 |
| Nursery and Greenhouse Managers | 82 | 8 |
| Source: Burning Glass | | |

**Table 4a. Top Job Titles for Sustainable Crop Management Occupations for latest 12 months (Aug 2021 - July 2022) Bay Region**

| **Title** | **Bay** | **Title** | **Bay** |
| --- | --- | --- | --- |
| Cultivation Technician | 45 | Urban Farmer | 7 |
| Farmer | 12 | Gardener | 6 |
| Viticulturist | 12 | Manager - Retail Plant Nursery | 6 |
| Cannabis Cultivator | 10 | Assistant Farm Manager | 5 |
| Agrihood Farm Manager | 8 | Farmer Market Staff | 5 |
| Farm Manager | 8 | Greenhouse Manager | 5 |
| Farmer Market Vendor | 8 | Ranch Workforce Planner | 5 |
| Growth Marketing | 8 | Cell Culturing Specialist | 4 |
| Source: Burning Glass | | | |

**Table 4b. Top Job Titles for Sustainable Crop Management Occupations for latest 12 months (Aug 2021 - July 2022) SC-Monterey Sub-Region**

| **Title** | **SC-Monterey** | **Title** | **SC-Monterey** |
| --- | --- | --- | --- |
| Cannabis Cultivator | 6 | Agrihood Farm Manager | 3 |
| Viticulturist | 4 | Farm Manager | 2 |
| Technical Grower | 3 | Manager, Grower Relations | 2 |
| Farmer Market Vendor | 3 | Substrate Technical Grower | 2 |
| Source: Burning Glass | | | |

## Industry Concentration

**Table 5. Industries hiring Sustainable Crop Management Workers in Bay Region**

| **Industry - 6 Digit NAICS (No. American Industry Classification) Codes** | **Jobs in Industry (2020)** | **Jobs in Industry (2025)** | **% Change (2020-25)** | **% Occupation Group in Industry (2020)** |
| --- | --- | --- | --- | --- |
| Crop Production | 11,093 | 11,198 | 1% | 89% |
| Animal Production | 987 | 986 | 0% | 8% |
| Farm Labor Contractors and Crew Leaders | 101 | 103 | 2% | 1% |
| Farm Management Services | 54 | 52 | -4% | 0% |
| Soil Preparation, Planting, and Cultivating | 53 | 55 | 2% | 0% |
| Support Activities for Animal Production | 47 | 46 | -1% | 0% |
| Postharvest Crop Activities (except Cotton Ginning) | 49 | 47 | -4% | 0% |
| Support Activities for Forestry | 27 | 37 | 41% | 0% |
| Wineries | NA | NA | NA% | 0% |
| All Other Specialty Trade Contractors | NA | NA | NA% | 0% |
| Source: EMSI 2022.1 | | | | |

**Table 6. Top Employers Posting Sustainable Crop Management Occupations in Bay Region and SC-Monterey Sub-Region (Aug 2021 - July 2022)**

| **Employer** | **Bay** | **Employer** | **SC-Monterey** |
| --- | --- | --- | --- |
| Ecological Farming Association | 30 | Driscolls, Inc. | 7 |
| Meadows In Bloom | 27 | Cannacruz | 4 |
| Deloitte | 10 | Fieldin | 3 |
| Little Sky Bakery | 6 | Samba Rock Acai Cafe | 2 |
| Syngenta | 5 | Monterey Mushrooms Inc. | 2 |
| Driscolls, Inc | 5 | International Rescue Committee | 2 |
| Bunbao Com | 5 | Ocean Mist Farms | 1 |
| Pacific States Marine Fisheries Commission | 4 | Newtown Enterprises | 1 |
| Kettlepop | 4 | Monterey Abalone Company | 1 |
| International Rescue Committee | 4 | EJ Gallo Company | 1 |
| Source: Burning Glass | | | |

## Educational Supply

There is one (1) community college in the Bay Region and SC-Monterey Sub-Region issuing one (1) award on average annually (last 3 years ending 2018-19) on TOP 0103.00 Plant Science.

**Table 7. Community College Awards on TOP 0103.00 Plant Science and CIP 01.0304 in Bay Region**

| **College** | **Subregion** | **Associate Degree** | **Total** |
| --- | --- | --- | --- |
| Cabrillo College | SC-Monterey | 1 | 1 |
| **Total** |  | **1** | **1** |

*Note: The annual average for awards is 2017-18 to 2019-20.*

## Gap Analysis

Based on the data included in this report, there is a large labor market gap in the Bay region with 1,301 annual openings for the Sustainable Crop Management occupational cluster and one (1) annual (3-year average) award for an annual undersupply of 1,300 students. In the SC-Monterey Sub-Region, there is also a gap with 872 annual openings and one (1) annual (3-year average) award for an annual undersupply of 871 students.

## Student Outcomes

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 0103.00 Plant Science**

| **Metric Outcomes** | **Bay All CTE Program** | **Hartnell All CTE Programs** | **State 0103.00** | **Bay 0103.00** | **SC-Monterey 0103.00** | **Hartnell 0103.00** |
| --- | --- | --- | --- | --- | --- | --- |
| Students with a Job Closely Related to Their Field of Study | 74% | 66% | 64% | 56% | N/A | N/A |
| Median Annual Earnings for SWP Exiting Students | $47,419 | $92,128 | $28,900 | $41,187 | $38,260 | $38,260 |
| Median Change in Earnings for SWP Exiting Students | 23% | 5% | 34% | 36% | 43% | 43% |
| Exiting Students Who Attained the Living Wage | 52% | 73% | 52% | 52% | 55% | 55% |
| Source: Launchboard Strong Workforce Program Median of 2017 to 2020. | | | | | | |

## Skills and Education

**Table 9. Top Skills for Sustainable Crop Management Occupations in Bay Region (Aug 2021 - July 2022)**

| **Skill** | **Posting** | **Skill** | **Posting** |
| --- | --- | --- | --- |
| Lifting Ability | 68 | Irrigation Systems | 21 |
| Cleaning | 57 | Occupational Health and Safety | 20 |
| Farm Management | 54 | Plant Biology | 19 |
| Budgeting | 53 | Record Keeping | 19 |
| Repair | 47 | Customer Contact | 18 |
| Scheduling | 41 | Fertilizers | 18 |
| Customer Service | 40 | Purchasing | 18 |
| Staff Management | 33 | Spreadsheets | 18 |
| Project Management | 31 | Product Sales | 16 |
| Sales | 29 | Vaccination | 16 |
| Data Collection | 25 | Water Quality | 16 |
| Experiments | 25 | Ventilation | 15 |
| Social Media | 25 | Chemistry | 14 |
| Biology | 21 | Disease Control | 14 |
| Source: Burning Glass | | | |

**Table 10. Education Requirements for Sustainable Crop Management Occupations in Bay Region**

| **Education (minimum advertised)** | **Latest 12 Mos. Postings** | **Percent 12 Mos. Postings** |
| --- | --- | --- |
| High school or vocational training | 82 | 43% |
| Associate's degree | 7 | 4% |
| Bachelor's degree and higher | 101 | 53% |
| 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/  
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:

* Leila Jamoosian, Research Analyst, for Bay Area Community College Consortium (BACCC) and Centers of Excellence (CoE), [leila@baccc.net](mailto:leila@baccc.net)
* John Carrese, Director, San Francisco Bay Center of Excellence for Labor Market Research, [jcarrese@ccsf.edu](mailto:jcarrese@ccsf.edu) or (415) 267-6544