



Cannabis Horticulture Occupations Labor Market Information Report Merritt 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 Cannabis Horticulture workers compared to the demand for this cluster of occupations in the Bay region and in the East Bay sub-region (Alameda and Contra Costa counties). There is a projected annual gap of about 8,320 students in the Bay region and 175 students in the East Bay Sub-Region.

Introduction

This report provides student outcomes data on employment and earnings for TOP 0109.00 - Horticulture 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 Merritt College and in the region.

This report profiles Cannabis Horticulture Occupations in the 12 county Bay region and in the East Bay sub-region for a proposed new Basic Cannabis Horticulture Certificate of Achievement at Merritt College.

- **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%

Merritt College provided the following supplemental labor market information to document the recent growth of cannabis jobs in the U.S. :

“Cannabis job growth in 2020 represents a doubling of the previous year’s U.S. job growth. In 2019, the cannabis industry added 33,700 new jobs for a total of 243,700 U.S. jobs. Despite a year marked by a global pandemic, spiking unemployment, and economic recession, the legal cannabis industry added 77,300 full-time jobs in the United States in 2020. That represents 32% year-over-year job growth.” (Source: Leafly.com, February 2021)

Occupational Demand

Table 1. Employment Outlook for Cannabis Horticulture Occupations in Bay Region

Occupation	2019 Jobs	2024 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	55,007	55,820	812	1%	50,278	8,380	\$13	\$14
Total	55,007	55,820	813	1%	50,278	8,380	\$13	\$14

Source: EMSI 2021.2

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 Cannabis Horticulture Occupations in East Bay Sub-region

Occupation	2019 Jobs	2024 Jobs	5-yr Change	5-yr % Change	5-yr Total Openings	Annual Openings	25% Hourly Earning	Median Hourly Wage
Farmworkers and Laborers, Crop, Nursery, and Greenhouse	1,347	1,315	-32	-2%	1,157	193	\$14	\$17
Total	1,347	1,315	-32	-2%	1,157	193	\$14	\$17

Source: EMSI 2021.2

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 (Jul 2020 - Jun 2021)

Occupation	Bay Region	East Bay
Farmworkers and Laborers, Crop	241	36
Nursery Workers	26	11

Source: Burning Glass

Table 4a. Top Job Titles for Cannabis Horticulture Occupations for latest 12 months (Jul 2020 - Jun 2021)
Bay Region

Title	Bay	Title	Bay
Picker	30	Farm Labor Program Specialist	4
Horticulturist	9	Harvest Cellar Hand	4
Harvest	8	Indoor Retail Nursery/Greenhouse	4
Harvest Cellar	8	Irrigator	4
Farm Hand	7	Harvest Cellar Hand	3
Professional Nurseryman	7	Botanical Garden Horticulturist	3

Title	Bay	Title	Bay
Greenhouse Technician	5	Farm Crew Worker	3
Grower	5	Farm Labor	3
Post Harvest Production	5	Fedex Picker	3

Source: Burning Glass

**Table 4b. Top Job Titles for Cannabis Horticulture Occupations for latest 12 months (Jul 2020 - Jun 2021)
East Bay Sub-Region**

Title	East Bay	Title	East Bay
Picker	15	Farm Hand/Laborer	1
Professional Nurseryman	7	Farm Worker	1
Farm Hand	2	Greenhouse Technician	1
Greenhouse Worker	2	Harvest Cellar Hand	1
Post Harvest Production Worker	2	Lead Associate Operations - Greenhouse	1
Assistant Director of Landscaping & Horticulture	1	Outdoor Supply Hardware - - Nursery	1

Source: Burning Glass

Industry Concentration

Table 5. Industries hiring Cannabis Horticulture 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)
Farm Labor Contractors and Crew Leaders	21,258	23,097	9%	40%
Crop Production	11,733	11,208	-4%	21%
Postharvest Crop Activities (except Cotton Ginning)	10,001	10,351	4%	18%
Farm Management Services	2,290	2,264	-1%	4%
Crop Harvesting, Primarily by Machine	1,879	1,652	-12%	3%
Soil Preparation, Planting, and Cultivating	1,339	1,431	7%	2%
Wineries	1,381	1,170	-15%	2%
Animal Production	639	615	-4%	1%
Nursery, Garden Center, and Farm Supply Stores	512	489	-5%	1%
Temporary Help Services	433	376	-13%	1%

Source: EMSI 2021.2

Table 6. Top Employers Posting Cannabis Horticulture Occupations in Bay Region and East Bay Sub-Region (Jul 2020 - Jun 2021)

Employer	Bay	Employer	East Bay
Trinchero Family Estates	10	Perez Nursery Landscaping	6
Constellation Brands Incorporated	10	Scs Global Services	5
Restaurant Depot	7	Restaurant Depot	3
Ace Hardware	7	FedEx	3
Syngenta	6	Kite Hawk Farms	2
Perez Nursery Landscaping	6	Fresh Farm Aquaponics	2
Scs Global Services	5	Veterinary Emergency Group	1
FedEx	5	Subject To Change Wine Co	1

Source: Burning Glass

Educational Supply

There are eight (8) community colleges in the Bay Region issuing 60 awards on average annually (last 3 years ending 2018-19) on TOP 0109.00 - Horticulture. In the East Bay Sub-Region, there are three (3) community colleges that issued 18 awards on average annually (last 3 years) on this TOP code.

Table 7. Community College Awards on TOP 0109.00 - Horticulture in Bay Region

College	Subregion	Associate	Certificate Low	Total
Cabrillo	SC-Monterey	7	9	16
Diablo Valley	East Bay	0	8	8
Foothill	Silicon Valley	8	6	14
Las Positas	East Bay	0	1	1
Merritt	East Bay	0	9	9
Monterey	SC-Monterey	1	3	4
San Francisco	Mid-Peninsula	1	0	1
Solano	North Bay	2	5	7
Total		19	41	60

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 8,380 annual openings for the Cannabis Horticulture occupational cluster and 60 annual (3-year average) awards for an annual undersupply of 8,320 students. In the East Bay Sub-Region, there is also a gap with 193 annual openings and 18 annual (3-year average) awards for an annual undersupply of 175 students.

Student Outcomes

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

Metric Outcomes	Bay All CTE Programs	Merritt All CTE Programs	State 0109.00	Bay 0109.00	East Bay 0109.00	Merritt 0109.00
Students with a Job Closely Related to Their Field of Study	73%	71%	72%	68%	66%	65%
Median Annual Earnings for SWP Exiting Students	\$44,575	\$37,353	\$32,188	\$36,786	\$36,800	\$46,050
Median Change in Earnings for SWP Exiting Students	30%	31%	31%	24%	24%	24%
Exiting Students Who Attained the Living Wage	53%	50%	52%	44%	49%	47%

Source: Launchboard Strong Workforce Program Median of 2016-18.

Skills, Certifications and Education

Table 9. Top Skills for Cannabis Horticulture Occupations in Bay Region (Jul 2020 - Jun 2021)

Skill	Posting	Skill	Posting
Cleaning	77	Quality Assurance and Control	17
Forklift Operation	53	Quality Management	15
Oral Irrigation	32	Customer Service	14
Scheduling	32	Food Safety	14
Repair	31	Packaging	14
Sorting	29	Plant Identification	14
Fertilizers	27	Botany	12
Lifting Ability	27	Crop Production	12
Machinery	26	Food Safety and Quality	12
Fermentation	23	Data Analysis	11
Basic Mathematics	22	Process Equipment	11
Project Management	21	Equipment Maintenance	10
Irrigation Systems	19	Landscape Design	10
Customer Contact	18	Personal Protective Equipment (PPE)	10

Source: Burning Glass

Table 10. Certifications for Cannabis Horticulture Occupations in the Bay Region (Jul 2020 - Jun 2021)

Certification	Posting
Driver's License	58
Certified Pest Control	11
OSHA Forklift Certification	2
Certified Weigh Master	2
Certified Landscape Irrigation Auditor	1
Certified Forester	1
Cdl Class C	1
Applicators License	1

Note: 73% of records have been excluded because they do not include a certification. As a result, the chart above may not be representative of the full sample.

Table 11. Education Requirements for Cannabis Horticulture Occupations in Bay Region

Education (minimum advertised)	Latest 12 Mos. Postings	Percent 12 Mos. Postings
High school or vocational training	58	91%
Associate's degree	6	9%

Source: Burning Glass

Note: 76% of records have been excluded because they do not include a degree level. As a result, the chart above 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 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

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