

Strong Workforce Program
Agriculture, Natural Resources, and the Environment
Agriculture Technology
Regional Workforce Advisory Meeting Proceedings
April 26th, 2024
Zoom

Introduction

The Los Rios Community College District, in partnership with Valley Vision and in collaboration with Sierra College, Yuba Community College District, and Lake Tahoe Community College, invests in Strong Workforce funding to organize and convene Regional Advisories. The objectives of the Regional Advisories are to build strong relationships between employers, educators, and the workforce that:

- Provide timely information on skills gaps and workforce needs, informing partners on major industry trend information;
- Improve the efficiency of the advisory process for educators and employers;
- Reflect a regional view of workforce needs and assets;
- Provide opportunities for more systemic, ongoing engagement, including workforce partners in key industry sectors.

Regional Advisory meetings help inform decisions on needed investments and enhancements for Career Education (CE) programs to help fill the growing demand for middle-skill positions. This meeting proceedings report includes key findings, best practices, and minutes from the spring 2024 Regional Advisory meeting focused specifically on careers in Agriculture Technology.

Valley Vision supports a robust talent pipeline through our multiple 21st Century Workforce initiatives. We prepare our regional workforce for the future by addressing skills gaps, advancing research, aligning efforts, and strengthening systems. Valley Vision's workforce efforts are supported by the Sacramento Employment and Training Agency (SETA), Golden Sierra Workforce Development Board (WDB), North Central Counties Consortium, Yolo WDB, the City of Sacramento, local community college districts, and others.

The Strong Workforce program provides Career Education opportunities to increase social mobility and fuel regional economies with skilled workers.

Key Findings

- The agricultural industry in the Greater Sacramento region boasts over 15,500 available jobs offered by more than 1,300 employers. The average annual wage in this sector is \$60,763.
- The industry is currently using AI and machine learning in its electronic sorting and grading equipment, with human oversight needed to ensure the machines are learning correctly. Employers emphasized the increasing importance of technical skills and soft "future skills" such as curiosity, collaboration, and lifelong learning.
- Biological technicians saw the largest increase in job postings. This role appeared as both a middle-skill occupation and a common job title, indicating a growing demand for this type of role that combines life sciences and agriculture. In addition to these roles, there were positions supporting areas such as forestry conservation, commercial transportation, and biological science technician work.
- The sector saw an 8% decline in employment from 2017 to 2022, with the "Support Activity" (comprising occupations specializing in soil preparation and farm labor contractors) subsector most impacted. Employment growth in Greater Sacramento's agricultural sector is expected to slow down, with a projected 1% decrease in employment by 2027, potentially resulting in the loss of around 200 jobs.
- Production occupations make up 54% of all jobs in the agricultural sector, with the potential for significant impact from increased automation. These roles include farm laborers, packaging/processing/production workers, and pesticide handlers.
- The typical agricultural worker in 2022 was a Hispanic or white male aged 25-54, with female workers accounting for 36% of employment. According to Benzinger, approximately 34% of the agricultural workforce is 55 years and older, putting the sector at a higher risk of retirement than the average of 25% across all industries.
- The organizations with the highest number of job postings were public agencies like the US Forest Service and Sierra Pacific Industries, which specialize in forestry work. In addition, Natural Life Sciences, a company operating in cannabis and alternative manufacturing, also had a substantial number of job postings.
- Employers in the industry need customized courses for specialized skills. They seek candidates with expertise in electrical, mechanical, welding, refrigeration, and boiler operation. Training programs should cover compliance, regulatory requirements, automation control, instrumentation, and emerging technologies like robotics, AI, and machine learning. Specialized skills in electronics, software engineering, and cybersecurity are also desired.

Meeting Proceedings

Welcome and Introduction

Diangelo Andrews, Project Associate, and Hilary Tellesen, Senior Project Manager at Valley Vision, introduced the Spring 2024 Advisory focused on Agriculture Technology. Josh Sweigert, Director of Employer Partnerships for Agriculture, Water, and Environmental Technology, North / Far North Regional Consortium, and Julie Muir, Director of Employer Partnerships for Manufacturing and Automation, welcomed the employer panelists and guests. Valley Vision emphasized the importance of collaboration between colleges and employers in providing quality and relevant workforce training for individuals interested in developing a profession in the agricultural workforce.

Labor Market Information and Job Posting Insights

Ebony Benzing, Director of the North Center of Excellence for Labor Market Research, presented her analysis of the agricultural labor market trends in the Greater Sacramento region. The study focused on seven counties: El Dorado, Nevada, Placer, Sacramento, Sutter, Yolo, and Yuba. She shared that there are over 15,500 jobs available in the agricultural sector and over 1,300 employers in the region. The average annual wage of occupations in this sector is \$60,763 (Figure 1.1) meeting most quality and promising jobs criteria.



Figure 1.1 Greater Sacramento Agriculture Sector

The presentation highlighted that the agricultural sector in the Sacramento region has witnessed a decline of approximately 8% from 2017 to 2022. This decline amounts to a loss of over 1500 jobs in the sector during this period, as depicted in Figure 1.2. According to Benzing, most job losses have occurred in the "Support Activity" subsector, which includes businesses

specializing in soil preparation and farm labor contractors. This particular subsector saw the most significant reduction of around 1200 jobs.

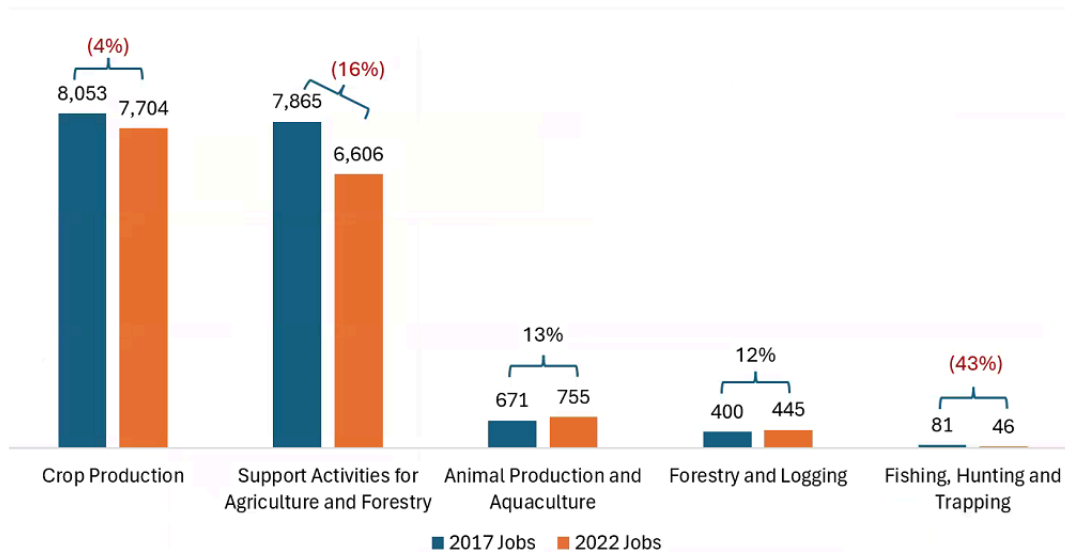


Figure 1.2 Historic Job Changes 2017-2022

Benzing stated that there is a projected deceleration in the employment growth trend in Greater Sacramento's agricultural sector. The current projection indicates that the sector will experience a drop of approximately 1% in employment by 2027, which could lead to the loss of roughly 200 jobs over the next few years (figure 1.3). The crop production sector is expected to bear the brunt of this downfall, with an estimated 174 job losses anticipated by 2027.

Subsector	2022 Jobs	2027 Jobs	5-Yr Projected Change	5-Yr Projected % Change
Crop Production	7,704	7,530	(174)	(2%)
Support Activities	6,606	6,665	59	1%
Animal Production and Aquaculture	755	748	(6)	(1%)
Forestry and Logging	445	378	(67)	(15%)
Fishing, Hunting and Trapping	46	36	(10)	(23%)
Greater Sacramento Totals	15,557	15,357	(200)	(1%)
All Greater Sacramento Industries	1,278,319	1,377,193	98,874	8%

Figure 1.3 Projected Job Changes 2022-2027

Benzing's production occupation list in Figure 1.3 includes 21 occupations directly involved in producing or processing agricultural products. It encompasses jobs such as farm laborers, packaging/processing/production workers, and pesticide handlers. Figure 1.4 shows that production occupations make up 54% of total agricultural sector jobs, the largest share

compared to other occupational groups. The analysis suggests that with increasing automation, some of these production jobs may be affected, potentially contributing to the projected decline in agricultural employment in the coming years.

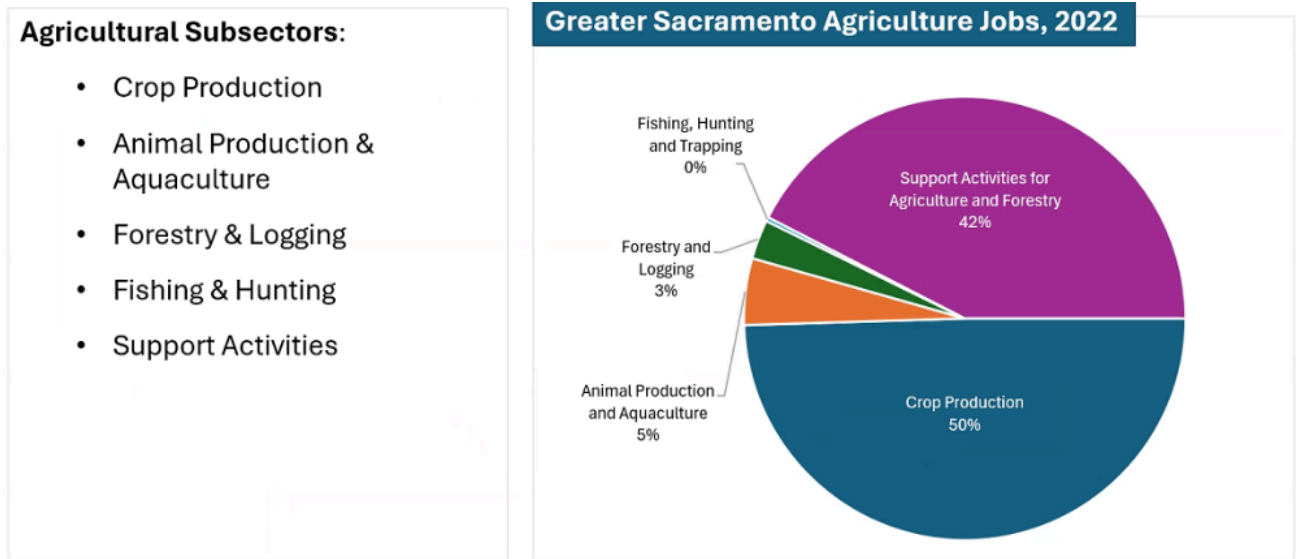
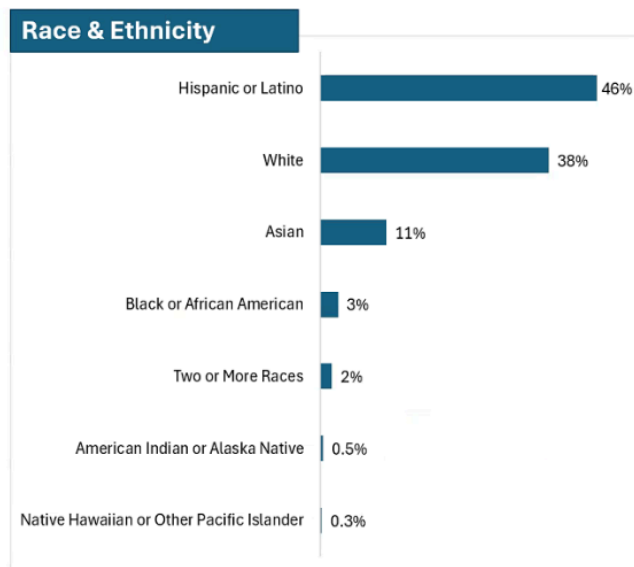
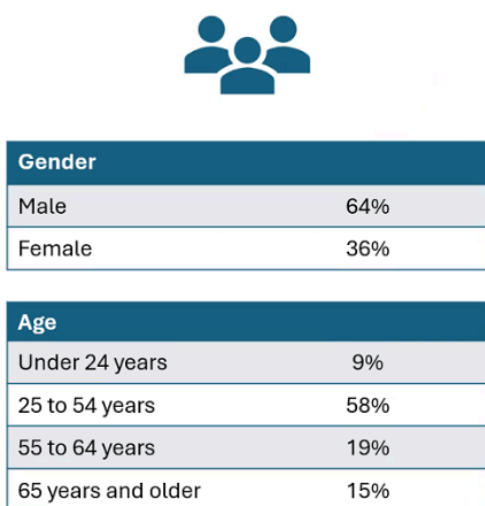


Figure 1.4 Agriculture in Greater Sacramento

As of 2022, the typical agricultural worker was a Hispanic or white male aged 25-54, considered prime working age (Figure 1.5). Female workers accounted for 36% of employment in the agricultural sector. According to Benzing, approximately 34% of the agricultural workforce is 55 years and older, putting the sector at a higher risk of retirement than the average of 25% across all industries. However, she noted that estimating the number of people exiting the workforce through retirement was challenging due to varied retirement ages.



1.5 Greater Sacramento's Agriculture Sector Demographics

From April 2021 to March 2024, there has been a consistent decline in online job postings from the agricultural sector, as illustrated in Figure 1.6. According to Benzing, this decline may suggest a significant transition in the industry's hiring practices, possibly indicating a shift from online/public job postings to a more referral-based approach. The data shows that only 54 postings are appearing each month, highlighting this notable decrease in online job opportunities within the agricultural sector.

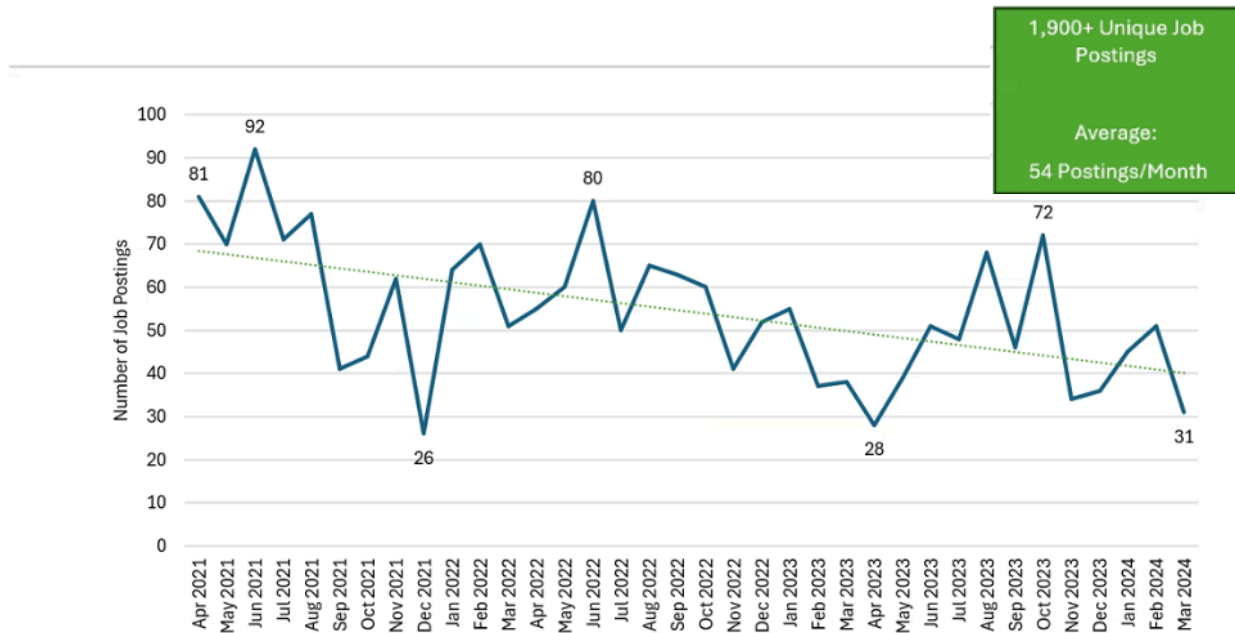


Figure 1.6 Ag Sector Three-Year Job Posting Trends

During this April to March period studied by Benzing, the organizations with the highest number of online job postings were public agencies (figure 1.7) like the US Forest Service and Sierra Pacific Industries, both of which specialize in forestry work. In addition, Natural Life Sciences, a company operating in cannabis and alternative manufacturing, also had a substantial number of job postings. One of the occupations that she saw an increase in job postings was biological technicians, which appeared both as a middle-skill occupation and a common job title listed (figure 1.7). This suggests a growing demand for this type of role, which combines life sciences and agriculture. In addition to the roles mentioned, these included positions supporting areas like forestry conservation, commercial transportation, and biological science technician work.

Employers with the Most Postings	Job Titles with the Most Postings	Middle Skill Occupations with the Most Postings
<ul style="list-style-type: none"> • United States Forest Service • Natura Life+Science • Ecological Farming Association • Sierra Pacific Industries • Village Nurseries • Lumpy's Flowers GCM Management Services • Cramer Fish Sciences • McGee Services • Wright Service Corp. • The Morning Star Company 	<ul style="list-style-type: none"> • Forestry Technicians • CDL-A Truck Drivers • Customer Service Representatives • Pest Control Technicians • Biological Science Technicians • Farm Managers • Maintenance Workers • Delivery Drivers • Shipping and Warehouse Managers • Maintenance Handymen 	<ul style="list-style-type: none"> • Forest and Conservation Technicians • Heavy and Tractor-Trailer Truck Drivers • Farmers, Ranchers, and Other Agricultural Managers • Secretaries and Administrative Assistants, Except Legal, Medical, and Executive • Biological Technicians

Figure 1.7 Top Agriculture Employers, Occupations, and Skills

Benzing briefly discussed the agricultural career education pathways offered at community colleges in the North Greater Sacramento region. She noted that all eight community colleges in the region offer some type of training related to agriculture, water, and environmental technology. The programs range from more specialized options like agricultural pest control advisor and viticulture to broader programs in agricultural technology and sciences and environmental technology. Over the last three years, the programs with the highest number of awards issued were natural resources, agricultural technology and sciences, and veterinary technician.

Agriculture, Water & Environmental Technologies (AgWET) Sector Programs				
Agricultural Pest Control Adviser <ul style="list-style-type: none"> • Woodland (C) 	Agriculture Business, Sales & Service <ul style="list-style-type: none"> • Cosumnes River (C/D/T) • Woodland (C/T) 	Agriculture Technology & Sciences <ul style="list-style-type: none"> • Cosumnes River (C/D) • Sierra (C/D) • Woodland (D) • Yuba (D) 	Animal Science <ul style="list-style-type: none"> • Woodland (T) • Yuba (C) 	Environmental Technology <ul style="list-style-type: none"> • Lake Tahoe (C/D) • Sacramento City (C) • Sierra (C/D) • Woodland (C)
Equine Science <ul style="list-style-type: none"> • Cosumnes River (D) 	Forestry <ul style="list-style-type: none"> • Lake Tahoe (C/D) 	Horticulture <ul style="list-style-type: none"> • American River (C) • Cosumnes River (C) • Woodland (C/D) 	Landscape Design & Maintenance <ul style="list-style-type: none"> • American River (C/D) • Cosumnes River (C/D) 	Natural Resources <ul style="list-style-type: none"> • American River (C/D)
Nursery Technology <ul style="list-style-type: none"> • American River (C) 	Parks and Outdoor Recreation <ul style="list-style-type: none"> • Lake Tahoe (C) 	Plant Science <ul style="list-style-type: none"> • Woodland (T) 	Veterinary Technician <ul style="list-style-type: none"> • Cosumnes River (C/D) • Yuba (C/D) 	Viticulture, Enology & Wine Business <ul style="list-style-type: none"> • Folsom Lake (D)

C = Certificate

D = Associate Degree

T = Associate Degree for Transfer

Figure 1.8 Community College Career Education Programs

Ebony Benzing's analysis of this sector sheds light on the evolving landscape of the agricultural labor market in the Greater Sacramento region. The findings provide insights into the sector's challenges and opportunities, from employment trends and job postings to the educational pathways available for aspiring professionals.

Panel Discussion

During the panel discussion, regional employers shared information about the current skill and labor demand in the agricultural and manufacturing industries. The panelists represented various agencies from the private sector, including:

- Jose Alvarez, Del Monte Foods, Organizational Effectiveness Director
- Greg Ahart, Superior Farms, Vice President of Operations
- Trudi Hughes, California League of Food Producers, CEO & President
- Diane Robinson, TOMRA Foods, P & O Sr. Manager
- Amy Vedmore, Blue Diamond Growers, Director Supply Chain Integration

Changing Skill Requirements

The discussion focused on the changing skill requirements in the workplace, driven by factors such as AI, automation, and policy changes. Employers emphasized the increasing importance of technical skills and soft "future skills" such as curiosity, collaboration, and lifelong learning. The panel emphasized the significance of soft skills such as teamwork, problem-solving, and adaptability alongside technical expertise.

Vedmore highlighted the current use of AI and machine learning in their electronic sorting and grading equipment, emphasizing the need for human oversight to ensure the machines are learning correctly. She stressed the necessity of skills to adapt to new technologies and assess their benefits and risks.

Ahart pointed out that while emerging technologies may change the nature of work, soft skills like conflict resolution remain essential. He also noted that younger, more tech-savvy employees can be crucial in bridging the generation gap. Alvarez also underscored the enduring significance of soft skills such as listening, problem-solving, and empathy in adapting to technological changes.

Hughes emphasized the need for skills related to installing, maintaining, and repairing new equipment and the need for adaptability to meet new demands posed by emerging technologies. Robinson recommended a dual focus on technical skills and "behavioral

competencies," such as adaptability, acquired through team-based learning, to prepare for evolving job requirements.

Community College Partnerships

During the panel discussion, the speakers emphasized the importance of strengthening collaborations between industry and community colleges. Vedmore highlighted Blue Diamond's innovative FLEX worker program, which allows students to gain valuable work experience through flexible schedules. Ahart emphasized the significance of internships for junior college students and mentioned that Superior Farms offers paid internship opportunities. Hughes also discussed the active involvement of the California League of Food Producers in supporting scholarships, organizing career fairs, and arranging plant tours to connect students with the food industry.

The discussion also provided insights into the existing programs designed to meet the workforce demands within community colleges. Hughes emphasized the importance of creating customized courses for the food industry to meet the demand for specialized skills in the sector. She pointed out that food processing companies often struggle to find skilled workers with specific expertise as they compete with larger manufacturers for talent. Hughes highlighted the necessity of training programs that equip students with an understanding of the unique compliance and regulatory requirements of food processing. Robinson recommended that community colleges and employers focus on more proactive outreach efforts to high school students to raise awareness about career opportunities in the agriculture industry. She suggested starting this outreach earlier before students enter college to expose more high schoolers to the possibilities for technical careers related to agriculture. By offering information sessions, sharing resources, and providing hands-on experiences through programs such as internships, community colleges, and partnerships with employers, interested students can learn about the available in-demand jobs and the necessary skill sets and training pathways.

Insights on Employee Recruitment

During the meeting, the experts discussed various strategies for identifying potential employees. They highlighted using job boards, collaboration with recruiters, leveraging word-of-mouth connections, and encouraging internal referrals. One speaker, Ahart, shared that they recruit production staff locally while engaging headhunters for senior roles. Vedmore explained that Blue Diamond prioritizes candidates with a curious mindset and focuses on internally nurturing skills. On the other hand, TOMRA taps into schools, other companies, and employee referrals for talent acquisition. Alvarez highlighted the challenge of filling team leader positions due to a scarcity of qualified candidates with strong leadership abilities.

The experts noted that sought-after skills encompass expertise in electrical, mechanical, welding, refrigeration, and boiler operation, as well as specialized skills in compliance, regulatory requirements, automation control, instrumentation, and emerging technologies like AI and robotics. Additionally, proficiency in electronics, software engineering, and cybersecurity enhances an individual's competitiveness in the industry.

Conclusion

After the panel discussion, two breakout rooms were hosted in Zoom, one for manufacturing and another for agriculture, to allow for networking and to share insights from the advisory. At the end of the advisory, attendees were encouraged to continue to engage with each other to further support talent pipelines in AgTech. For more information about the report and labor market data provided, please contact:

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