

SECTOR PROFILE

AGRICULTURE

WHAT IS THE AGRICULTURE SECTOR?

Most people think agriculture is farming or ranching. However, modern agriculture encompasses much more. Agriculture and agricultural sciences touch every aspect of American society from the individual consumer's health and safety to the nation's welfare, security, and environmental sustainability. Agricultural activities are broken down into four specific clusters within the sector, as follows:

- **Agriculture Support:** activities related to agriculture including: veterinary services, equipment operators/mechanics, forest & conservation workers, and pest control.
- **Agriculture Production:** production processes are specific to the commodity, but include crop, vegetable and animal farming, poultry & egg production, and aquaculture.
- **Agriculture Wholesale Trade:** all activities related to the sale, administration, operation, management, production, and support of wholesale endeavors within the agriculture sector.
- **Agriculture Water and Environmental Services:** services related to water treatment and environmental planning including: irrigation, hazardous materials workers, septic servicers/cleaners, inspectors, and environmental science and protection technicians.

WHY AGRICULTURE?

Agriculture is the world's largest economic sector. On a worldwide basis, more people are involved in agriculture than in all other occupations combined. Agriculture in California is an essential part of the state's economy. In addition to the direct impacts, agricultural research is fueling innovation in many parts of the economy not generally associated with agriculture, such as energy, electronics, plastics, and pharmaceuticals. Each year, billions of dollars in products are created in California alone. Combining the necessity of agriculture and the growth in innovation within the sector, including potentially harnessing biofuels, agriculture will continue to play an increasingly integral part of California's economy.

quick facts about agriculture

- ✓ 22,731 companies operate in the agriculture sector within California alone.
- ✓ Agriculture accounts for over 1.5 million jobs in California.
- ✓ The agriculture sector generated over \$69.7 billion in revenue in 2010.
- ✓ By the year 2014, the agriculture sector is forecasted to add over 2,000 new jobs.
- ✓ Annual wages for all industries within the agriculture sector in 2011 averaged \$40,000; agriculture wholesale trade and agriculture water & environmental services clusters far outperformed the average annual wages within the sector as a whole.

WHAT IS DRIVING GROWTH?

The agriculture sector continues to be one of adaptation and innovation. As population rises and resources become more limited, the sector continues to find ways to produce crops more efficiently, create cleaner and healthier farming methods, and promote the importance of a relationship between human and environment:

- Continued innovation requires the use of a number of different types of skilled employees ranging from analyst, computer support specialist, technicians, and potentially scientist to continue pioneering research and development.
- As environmental concerns over farming practices become more prevalent, it becomes more important to educate and make available skilled workers within the agriculture water and environmental services cluster to help consult and properly manage potential environmental pitfalls.
- Programs such as "America's Great Outdoors Initiative" are making available 20,000 new jobs for America's youth to promote concepts such as conservation and a respect for nature and are indicative of the changing landscape between humans and the environment. Programs such as this represent an increasing commitment to creating jobs in agriculture with a focus on environmentalism.

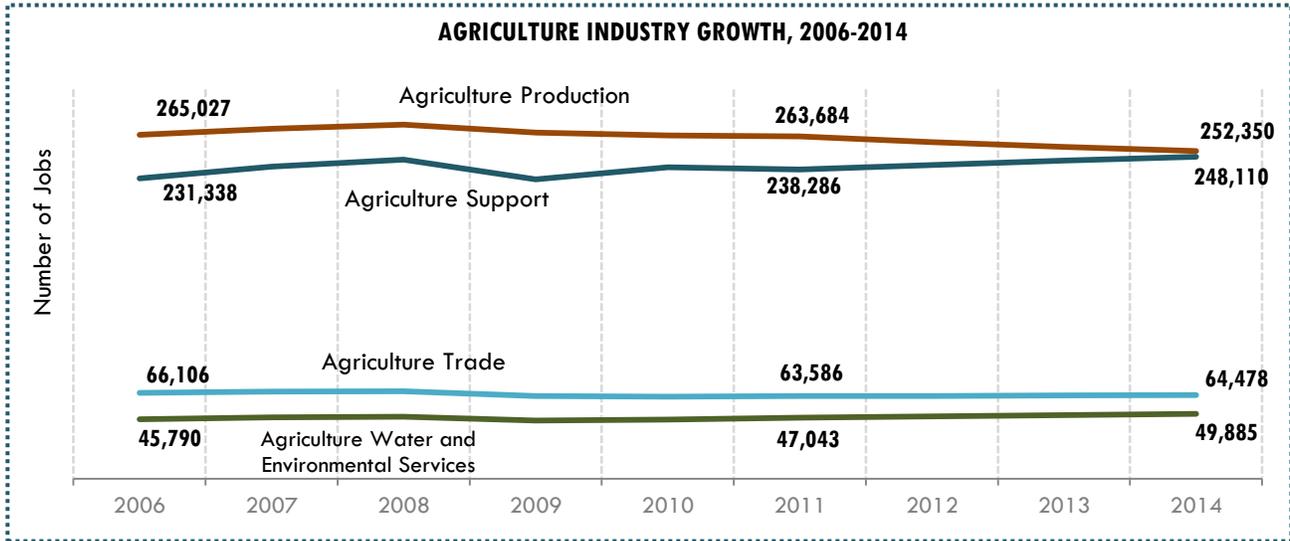
EMPLOYER PERSPECTIVE

"Our California agricultural industry provides an abundant and safe food supply that feeds our communities, state, country and world. With continuing challenges, agriculture consistently rises up to meet those challenges and remain a driving economic force in California".

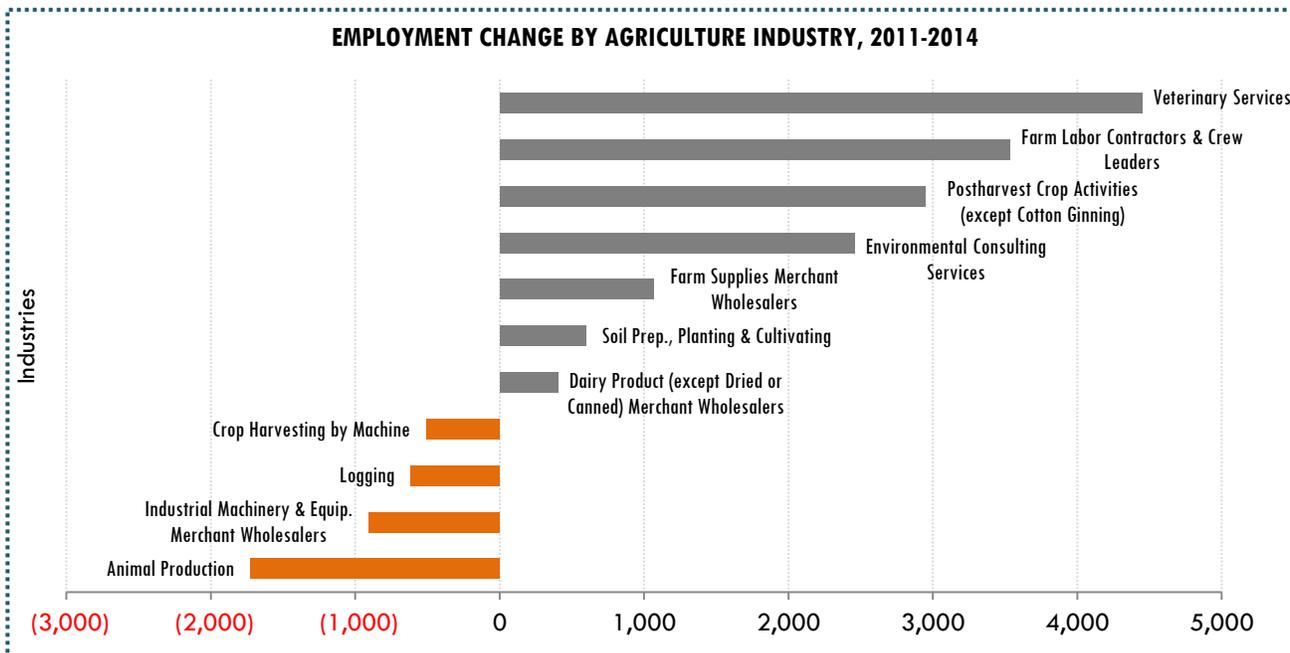
- Debbie Jacobsen, Vineyard Owner;
California Farm Bureau Federation

WHAT INDUSTRIES ARE PROJECTED TO GROW?

The agriculture sector in California accounted for approximately 612,600 jobs in 2011. The largest cluster within the sector is agriculture production, providing 263,684 jobs in 2011. Agriculture support provides the second most jobs (238,286), followed by agriculture wholesale trade (63,586 jobs) and agriculture water and environmental services sectors (47,043 jobs). Both agriculture support and agriculture water and environmental services are predicted to experience a 7.5% increase in jobs (+16,772 and +4,095, respectively) between 2006 and 2014. The sector as a whole is projected to have moderate growth (1.1%) over the same period.



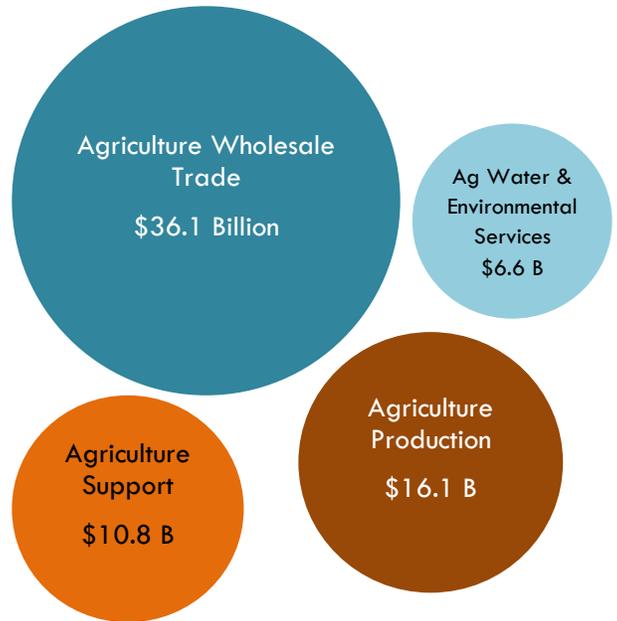
The graph below represents some of the sectors biggest “winners” and “losers” by number of jobs gained or lost between the years 2011-2014. Veterinary services (4,448 jobs) is the largest occupation, though the environmental consulting services (2,456) and farm supplies merchant wholesalers (1,065) sectors are the most highly compensated amongst the winners, with average annual wages of \$70,603 and \$68,317, respectively. Among the biggest losers are animal production, industrial machinery, and crop production (not listed, with job losses exceeding 9,500).



WHAT INDUSTRIES ARE DRIVING ECONOMIC ACTIVITY?

In 2010, the agriculture sector generated almost \$70 billion in revenue. The cluster that produced the highest revenue was agriculture wholesale trade (\$36.1 billion), followed by agriculture production (\$16.1 billion), agriculture support (\$10.8 billion), and agriculture water and environmental services (\$6.6 billion). The top three revenue producers, by industry, were industrial machinery and equipment merchant wholesalers (\$11.6 billion), meat and meat product merchant wholesalers (\$5.7 billion), and miscellaneous crop farming (\$5.7 billion). A thriving agricultural sector is integral to California; it generates not only state and corporate taxes, but also direct and indirect jobs that support the diverse landscape of the state's economy, through direct revenue and agriculture's extended value chain.

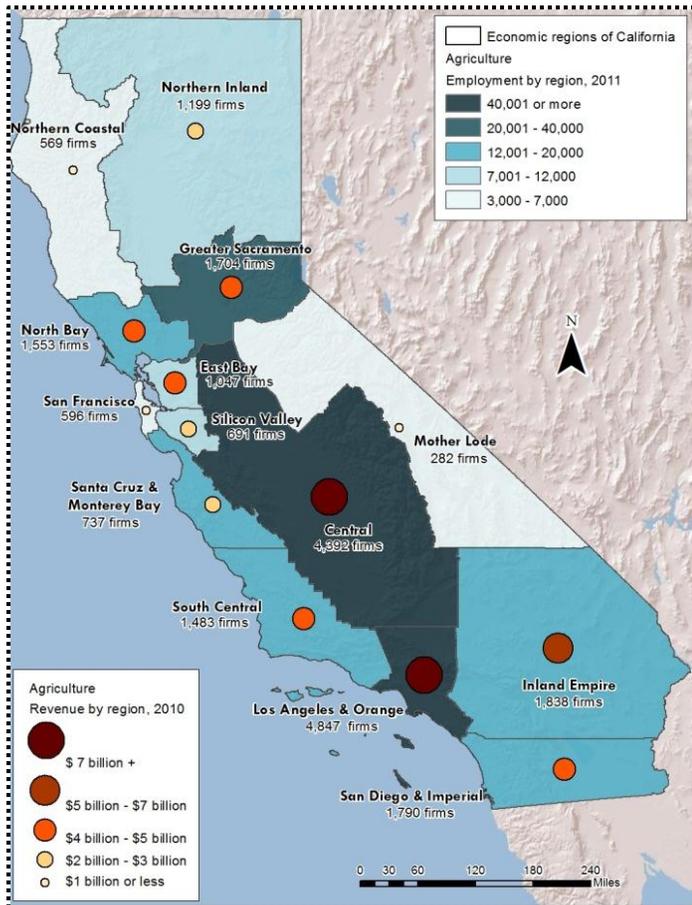
2010 REVENUE BY AGRICULTURE CLUSTER



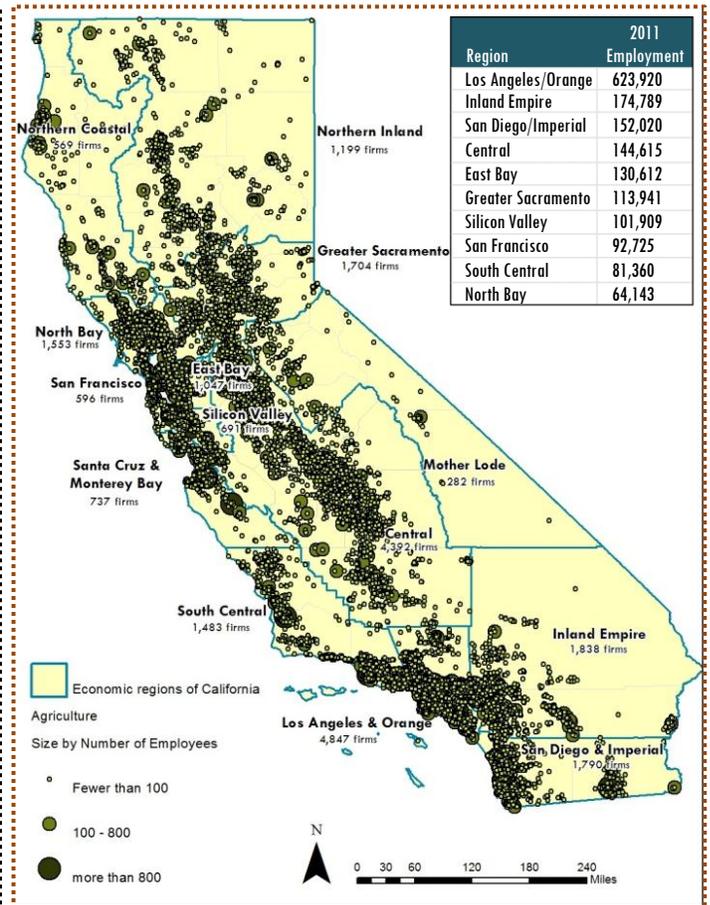
WHERE ARE THE "HOT SPOTS"?

The LA/Orange County region has, by far, the most agriculture jobs in California, with 35% (624,000) of jobs located within the region. Other regions with large employment and revenue include the Inland Empire, San Diego/Imperial, and Central Regions.

AGRICULTURE EMPLOYMENT & REVENUE BY REGION



LOCATION OF AGRICULTURE FIRMS



HOW MUCH DOES IT PAY?

Average annual earnings paid in the California agriculture sector, as a whole, were approximately \$40,000 in 2011. Earnings paid by agriculture clusters display wide variation, ranging from about \$32,000 (Agriculture Support) to \$65,000 (Agriculture Water and Environmental Services). As a point of comparison, the annual average earnings across all industries were \$56,600 in California in 2011.

Average Annual Earnings by Agriculture Cluster



WHAT JOBS ARE IN DEMAND?

Jobs in agriculture that show potential for employment in the next three years require either on-the-job training, previous work experience, or a college degree. Farmers and ranchers, veterinary technologists and technicians, and management analysts are occupations that are expected to have the largest job openings over the period from 2011-2014.

Description	2011 Jobs	2014 Jobs	New Jobs	Replacement Jobs	Openings (new & repl.)	2011 Median Wages	Minimum Education Level
Farmers and Ranchers	62,339	60,004	(2,335)	4,192	1,851	\$11.23	Long-term on-the-job training
Veterinary Technologists/Technicians	5,254	6,084	830	399	1,229	\$16.76	Associate degree
Management Analysts	5,923	6,624	701	305	1,006	\$36.19	Bachelor's degree or higher
Farm, Ranch, and Other Ag Managers	11,712	11,486	(226)	1,168	942	\$32.22	Bachelor's degree or higher
Sales Reps., Wholesale & Manufacturing,	7,507	7,413	(94)	877	783	\$25.72	Work experience in a related field
Graders and Sorters, Ag Products	6,325	6,505	180	529	709	\$9.05	Work experience in a related field
Pest Control Workers	5,535	5,576	41	591	632	\$14.87	Moderate-term on-the-job training
First-line Supervisors/Mgrs of Farming, Fishing & Forestry Workers	10,320	10,182	(138)	1,006	868	\$17.24	N/A
First-line Supervisors/Mgrs of Retail Sales Workers	1,609	1,657	48	205	253	\$15.14	Work experience in a related field
Customer Service Representatives	1,168	1,200	32	185	217	\$16.99	Moderate-term on-the-job training

California agriculture employers posted **63,715 job advertisements** online in the last four months. Most job postings were in the agriculture wholesale trade (35,655 postings) and the agriculture water and environmental services (20,204 postings) sectors. The top job postings predominantly included those with educational requirements of moderate on-the-job training to associate degrees (i.e. positions requiring community college training and education). These postings included:

- Computer Support Specialists (19,725 postings)
- General and Operations Managers (14,660)
- Management Analyst (12,904)
- Inspectors, Testers, Sorters, Samplers, Weighers (3,504)
- Welders, Cutters, Solderers, Brazers (2,168)
- Industrial Machinery Mechanics (2,096)
- Plumbers, Pipefitters, and Steamfitters (1,921)
- Construction Laborers (1,866)
- Pest Control Workers (1,052)
- Environmental Science & Protection Techs. (951)
- Veterinary Technologists & Technicians (852)

DATA NOTES AND SOURCES

Data and information included in the Sector Profile were compiled from the following public and proprietary sources: "Nitrate in Drinking Water Raises Health Concerns for Rural Californians," UC Davis, 2012; "Agriculture's Role in the Economy," UC Davis, 2008; Bureau of Labor Statistics; United States Census Bureau; Centers of Excellence; CA Employment Development Department; Economic Modeling Specialists, Inc.; InfoGroup, Inc.; The Conference Board - Help Wanted Online.