

Effects of California's Drought on Farm Employment

Meeting of the California State Board of Food and Agriculture

June 2, 2015

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Farm Employment in California, April 2015

While agriculture is the sector of the economy that is most vulnerable to drought, employment in the sector is inherently difficult to track using labor market information—particularly in real time. Not only does agricultural employment tend to follow a seasonal hiring pattern dictated by climate and weather instead of the calendar, but it has periods of peak labor demand of often short duration.

The Employment Development Department (EDD), in cooperation with the U.S. Bureau of Labor Statistics, has two primary sources of jobs data.

Quarterly Census of Employment and Wages (QCEW): All establishments covered by the Unemployment Insurance (UI) program, which includes 98 percent of employers in California including those in agriculture, are required by law to report employment and wages on a quarterly basis. Although this produces a rich and detailed snapshot of employment, QCEW data are not timely, lagging six to nine months behind real time. The most current QCEW data published by the EDD are from the third quarter of 2014.

Current Employment Statistics: To fill the gap between when QCEW data become available and real-time, the EDD and BLS conduct a monthly survey of 58,000 California establishments from which they estimate the number of jobs by industry and area. These monthly employment estimates are benchmarked, or calibrated, annually to the QCEW data. ***However, agricultural employers are not part of the CES sample.***

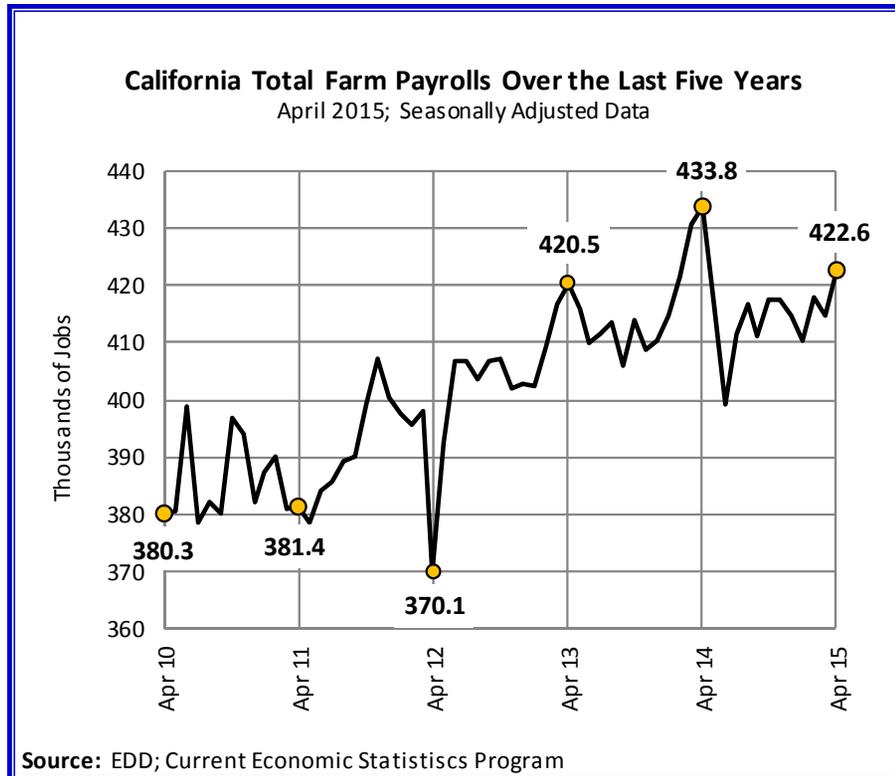
Farm Employment in California, April 2015 (Continued.)

To fill this void, EDD estimates the number of farm jobs on a monthly basis based on the most recent (albeit historical) QCEW data, historical trend, and knowledge of factors affecting California agriculture. These estimates, which are not sample-based, are benchmarked annually to the QCEW. While this system works reasonably well in normal times as a stopgap between real-time and when the QCEW data become available, it is less well equipped to cope with an extraordinary event such as extreme drought.

As a rule, the QCEW data are the most accurate means of tracking agricultural employment because its jobs totals are reported by agricultural employers.

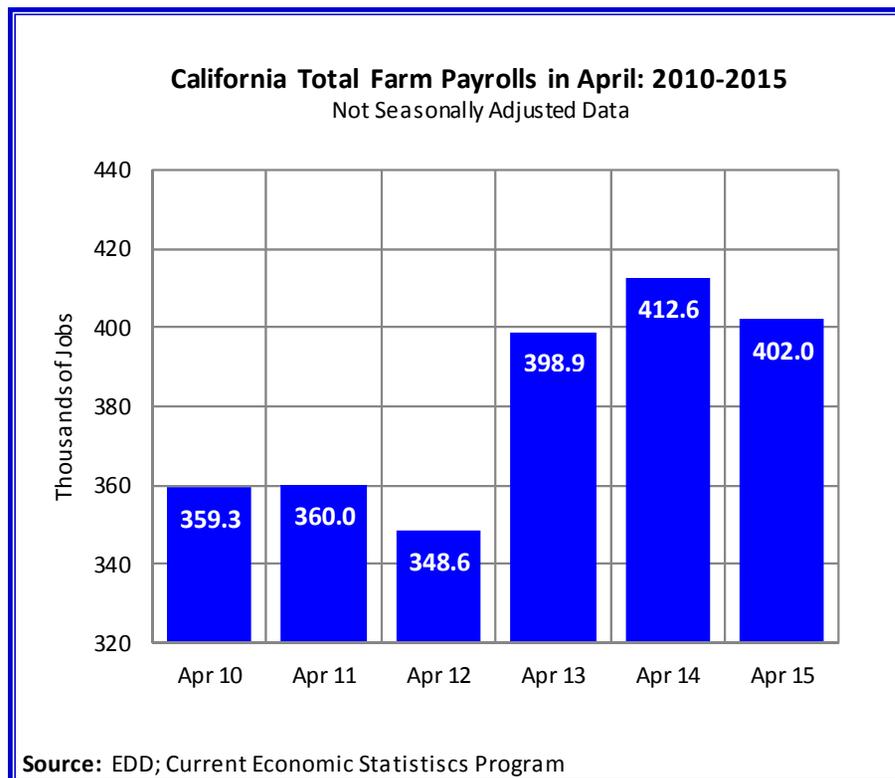
California Farm Employment, April 2015

On a seasonally adjusted basis, California farm employment totaled 422,600 jobs in April 2015. Although this was 11,200 jobs (2.6 percent) less than in April 2014, it was 2,100 jobs more than in April 2013. However, the jagged nature of the trend line shows that, statistically, there isn't a terribly well-defined monthly pattern to agricultural hiring, meaning one should place more emphasis on trend rather than absolute changes. Farm employment in California appears to have been quite flat amidst the variation over the last two years, providing inconclusive evidence about drought.



California Farm Employment, April 2015

The not seasonally adjusted data show a similar pattern. With not seasonally adjusted data, the only reliable way to control for seasonal patterns in hiring is to compare like months. Although farm employment in April 2015 was 10,600 jobs less than in April 2014, it remained high in comparison to April 2010 through April 2012 levels.

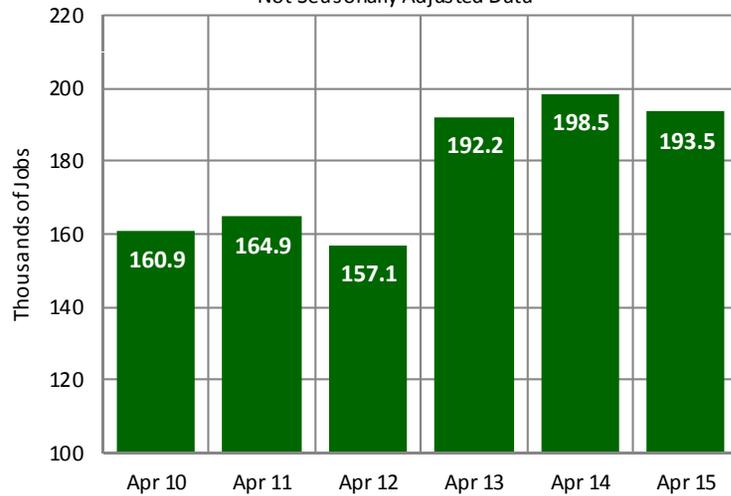


Farm Employment in San Joaquin Valley and Tulare Lake Basin, April 2015

The not seasonally adjusted April hiring pattern in San Joaquin Valley Region and Tulare Lake Basin Counties (Fresno, Kern, Kings, and Tulare) is similar to the state as a whole.

**San Joaquin Valley Total Farm Payrolls in April:
2010-2015**

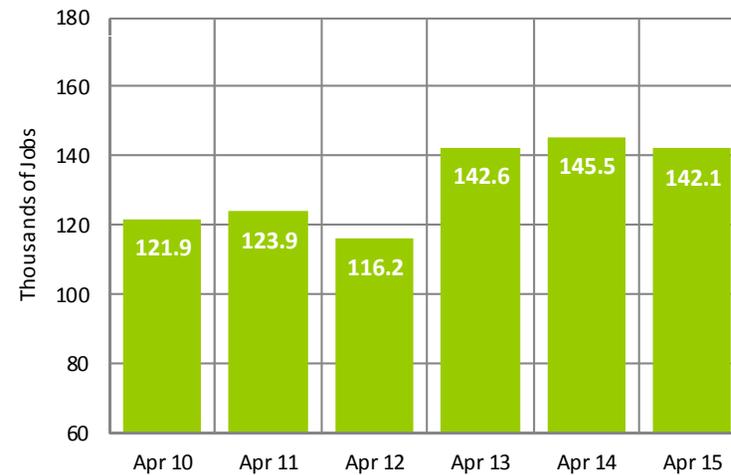
Not Seasonally Adjusted Data



Source: EDD; Current Economic Statistics Program

**Tulare Lake Basin Total Farm Payrolls in April:
2010-2015**

Not Seasonally Adjusted Data

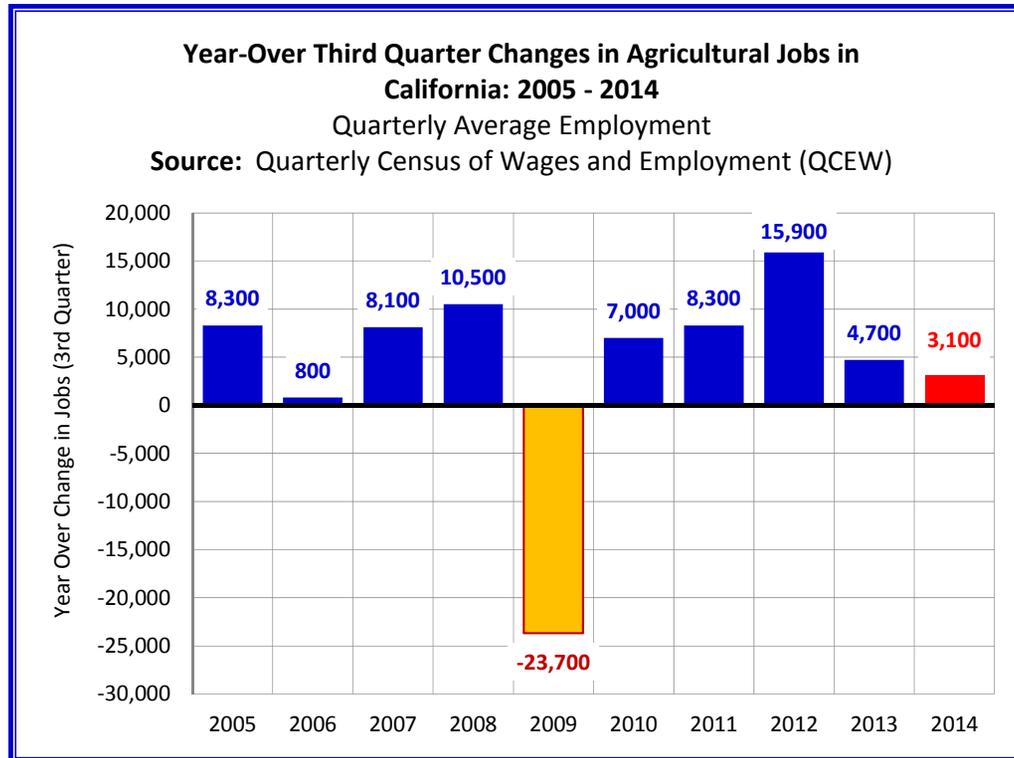


Source: EDD; Current Economic Statistics Program

Impacts of Drought on Agricultural Employment in 2014: California

While the real-time farm jobs data provide inconclusive information about how drought has affected farm employment, the QCEW provides a more accurate and detailed data set based on reported employment by employers. EDD has published QCEW data for the third quarter of 2014, which is the quarter of peak farm employment, providing the opportunity to analyze what effects drought had on agricultural employment, if any, in 2014.

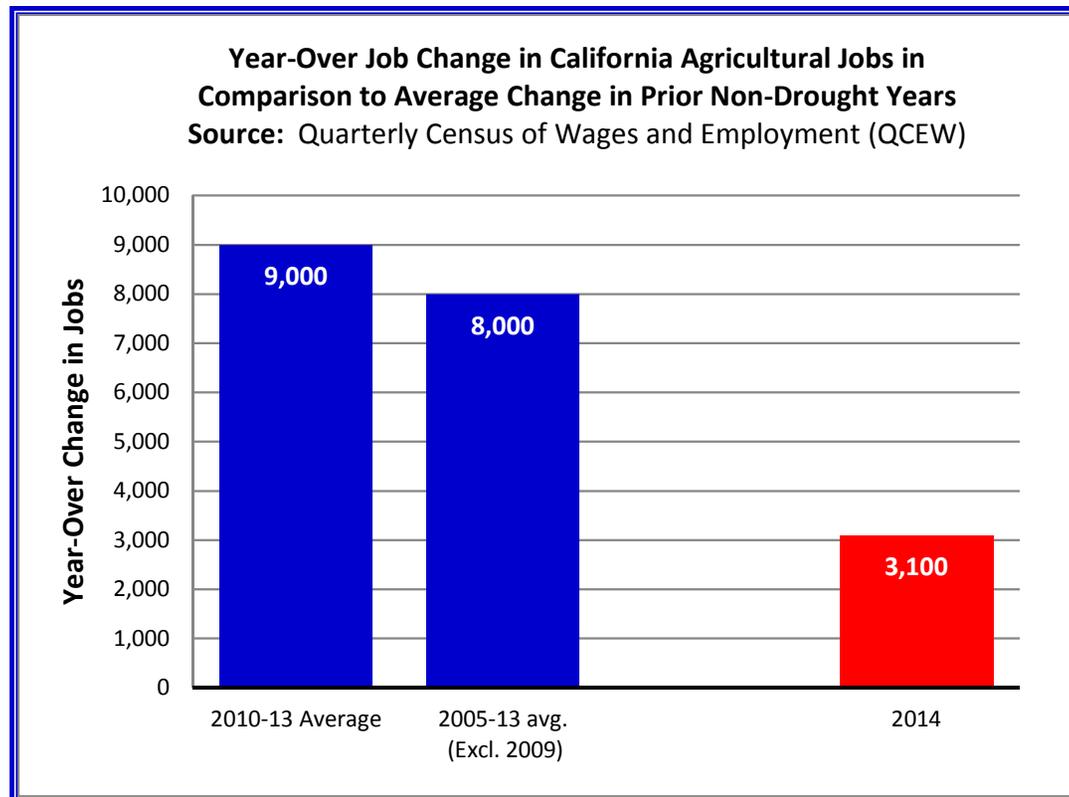
Agricultural employment in California grew by 3,100 jobs from 2013:Q3 to 2014:Q3, despite the drought...



Impacts of Drought on Agricultural Employment in 2014: California

...but fell short of the growth one would have expected in the absence of drought by 5,000 to 6,000 jobs.

Support activities for crop production, fruit and tree nut farming, and to a lesser extent, vegetable and melon farming were the agricultural industries that performed more poorly in 2014 than in past non-drought years. In contrast, other crop farming and animal production had stronger than average employment in 2014, despite the drought. Employment in food manufacturing showed no impacts from drought throughout the state.



Impacts of Drought on Agricultural Employment in 2014: Coastal Areas

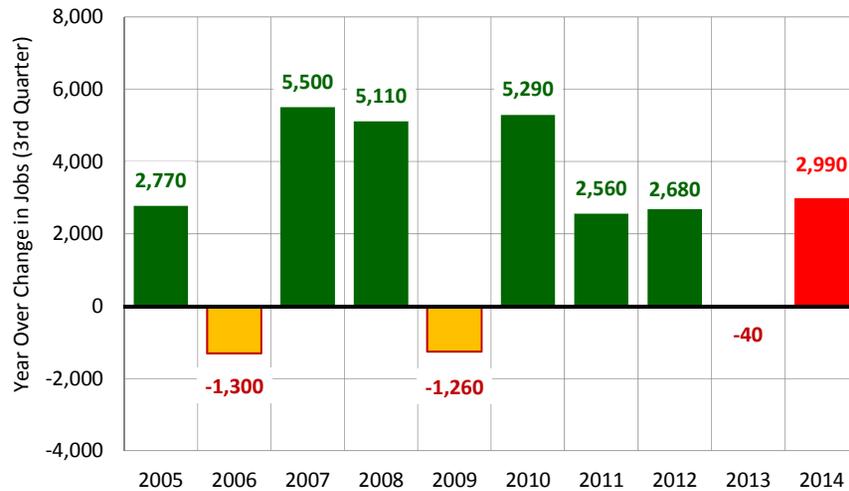
(San Mateo, Santa Cruz, San Benito, Monterey, San Luis Obispo, Santa Barbara, Ventura Counties)

Agricultural employment in coastal areas of California was stronger in 2014 than it was, on average, in prior non-drought years. The employment data suggest some shifting of jobs from fruit and tree nut farming (most notably berries, except strawberries) into other crop production activities in 2014.

Year-Over Third Quarter Changes in Agricultural Jobs in Coastal Areas of California: 2005 - 2014

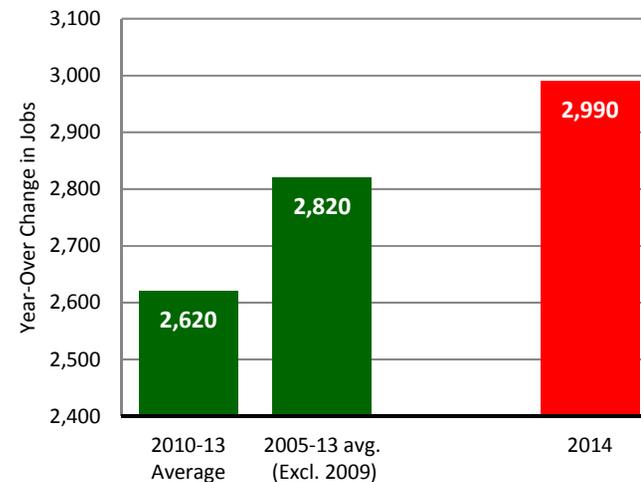
Quarterly Average Employment

Source: Quarterly Census of Wages and Employment (QCEW)



Year-Over Job Change in Coastal Agricultural Jobs in Comparison to Average Change in Prior Non-Drought Years

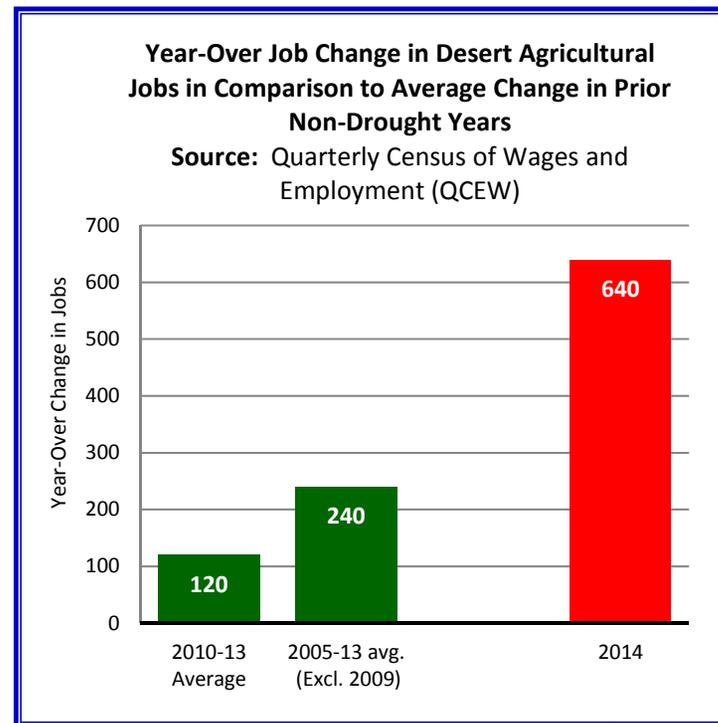
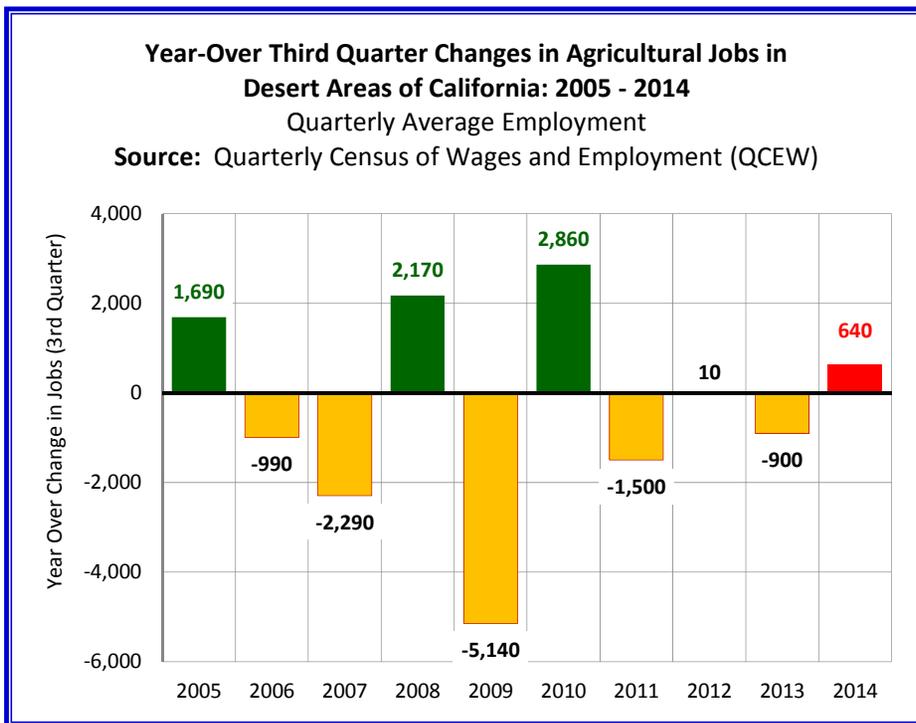
Source: Quarterly Census of Wages and Employment (QCEW)



Impacts of Drought on Agricultural Employment in 2014: Desert Areas

(Imperial, Riverside, San Bernardino, San Diego Counties)

Agricultural employment in desert areas of California was stronger in 2014 than it was, on average, in prior non-drought years. These areas receive their water allocations from the Colorado River.



Impacts of Drought on Agricultural Employment in 2014: Sacramento Valley Areas

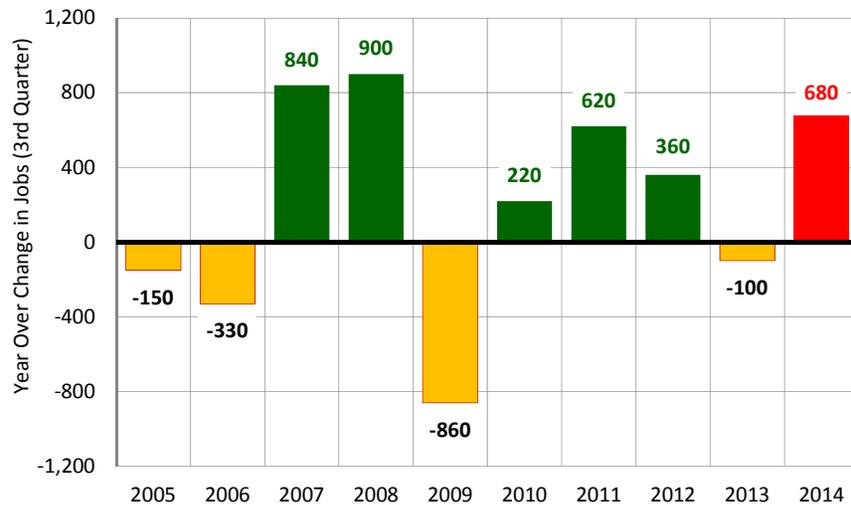
(Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, Yuba Counties)

Agricultural employment in Sacramento Valley areas of California was stronger in 2014 than it was, on average, in prior non-drought years. Although data suppression complicated the analysis, the drought did not appear to have much impact on rice farming jobs. While the data hinted that hiring in oilseed and grain farming (which includes rice farming) in the region may have been slightly below expectations, this same pattern was not visible in rice farming jobs at the state level.

**Year-Over Third Quarter Changes in Agricultural Jobs
Sacramento Valley Areas of California: 2005 - 2014**

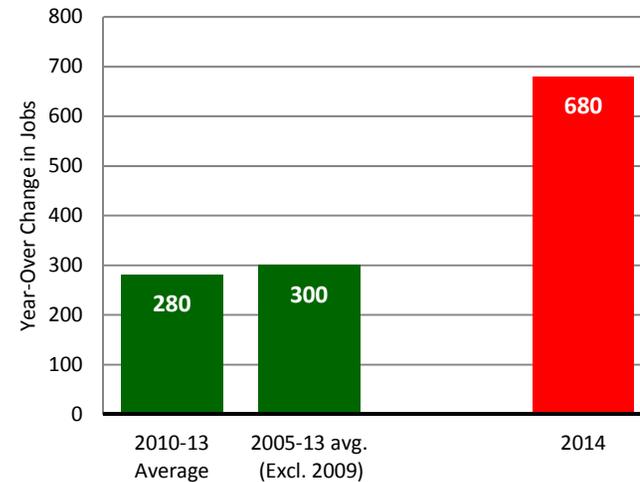
Quarterly Average Employment

Source: Quarterly Census of Wages and Employment (QCEW)



**Year-Over Job Change in Sacramento Valley
Agricultural Jobs in Comparison to Average
Change in Prior Non-Drought Years**

Source: Quarterly Census of Wages and Employment (QCEW)

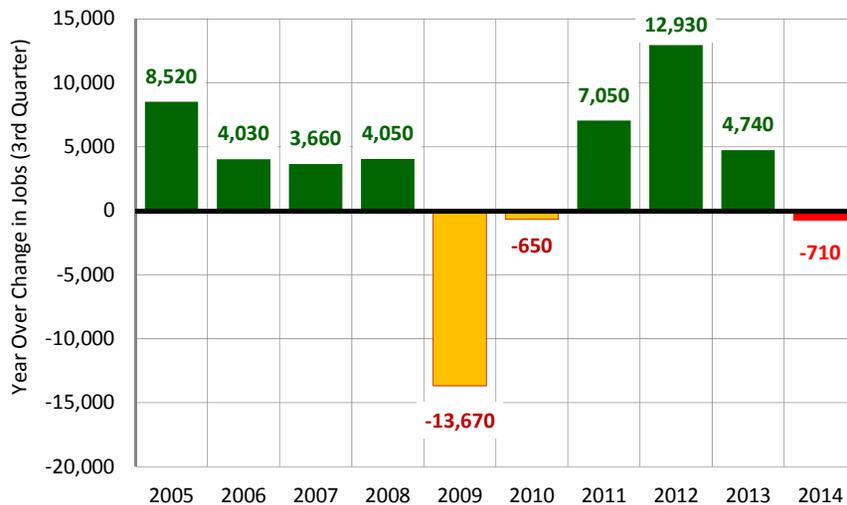


Impacts of Drought on Agricultural Employment: San Joaquin Valley Areas

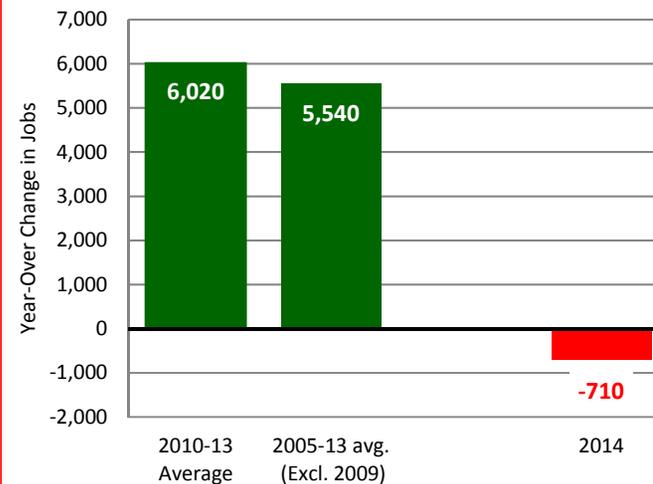
(Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare Counties)

San Joaquin Valley was the only agricultural region of California to experience a year-over loss in agricultural employment totaling 710 jobs in 2014Q3. Fresno County and Merced lost 1,020 and 630 jobs, respectively, and Tulare County lost 230. Job growth in Kern County, which has exhibited strong growth in recent non-drought years, was flat. **Estimated total job loss due to drought (including growth foregone) = 6,300 to 6,700 jobs.**

Year-Over Third Quarter Changes in Agricultural Jobs San Joaquin Valley Areas of California: 2005 - 2014
 Quarterly Average Employment
 Source: Quarterly Census of Wages and Employment (QCEW)



Year-Over Job Change in San Joaquin Valley Agricultural Jobs in Comparison to Average Change in Prior Non-Drought Years
 Source: Quarterly Census of Wages and Employment (QCEW)



Impacts of Drought on Agricultural Employment: Tulare Lake Basin Areas

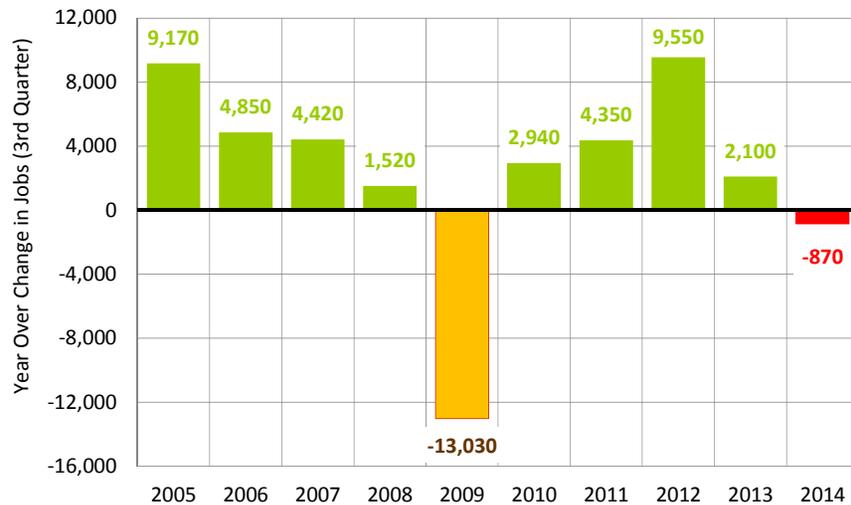
(Fresno, Kern, Kings, Tulare Counties)

With the exception of Merced County, farm job losses in San Joaquin Valley were more heavily concentrated in the Tulare Lake Basin area than in northern San Joaquin Valley. Tulare Lake Basin experienced a year-over loss of 870 agricultural jobs in 2014Q3. This compares to an expected a job gain of around 4,800 jobs in the absence of drought, resulting in an estimated total loss of around 5,700 jobs for the area in 2014. The lower hiring was most pronounced amongst farm labor contractors, particularly in Kern County.

Year-Over Third Quarter Changes in Agricultural Jobs in Tulare Lake Basin Areas of California: 2005 - 2014

Quarterly Average Employment

Source: Quarterly Census of Wages and Employment (QCEW)



Year-Over Job Change in Tulare Lake Basin Agricultural Jobs in Comparison to Average Change in Prior Non-Drought Years

Source: Quarterly Census of Wages and Employment (QCEW)

