

Rural Migration News

Blog 218

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Farm Worker Wages and Employment: COA and QCEW

The two major sources of data on farm worker employment and wages are the Census of Agriculture and the Quarterly Census of Employment and Wages. The COA reported that expenses for farm labor were \$39 billion in 2017, while the QCEW reported that wages paid to crop and livestock farm workers (NAICS 111, 112, 1151, and 1152) were \$40 billion.

Census of Agriculture

The COA obtains data from farm operators on their expenses for workers whom they hire directly and for workers brought to their farms by contractors. Employer labor expenses include wages as well as payroll taxes and the cost of any employer-provided benefits such as health insurance and housing, while

contract labor expenses include wages, payroll taxes, work-related benefits, and other contractor expenses and profits.

Some 513,100 US farms had \$31.6 billion in expenses for directly hired workers in 2017, and 195,800 US farms (often the same farms) reported \$7.6 billion in contract labor expenses.

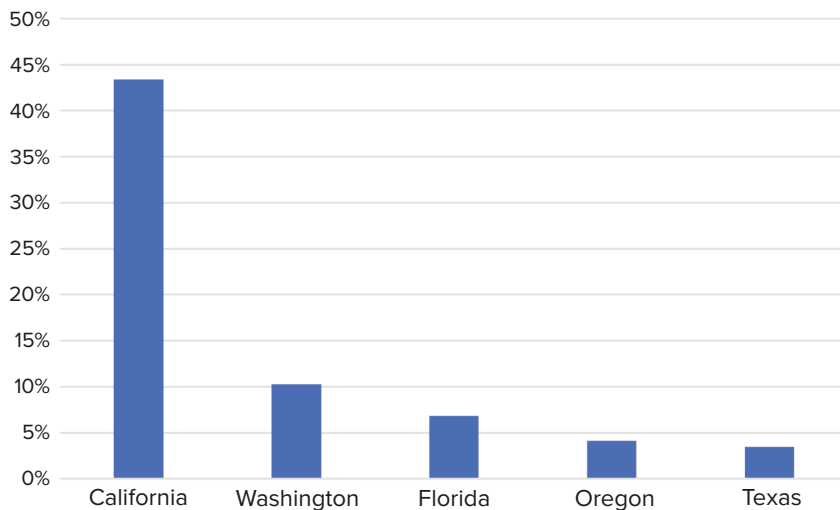
COA farm labor expenses are concentrated in three inter-related ways, by geography, commodity, and size of farm. California accounts for almost 28 percent of COA labor expenses, and the top five states of CA, WA, TX, FL and OR account for 47 percent of the US total. The next five states of WI, NC, MI, IA, and MN account for 13 percent of US farm labor expenses, and the next five states of PA, NY, ID, IL, and NE account for 11 percent, so that 15 states account for 71 percent of COA labor expenses.

FVH Farms Paid Half of COA Farm Labor Expenses in 2017

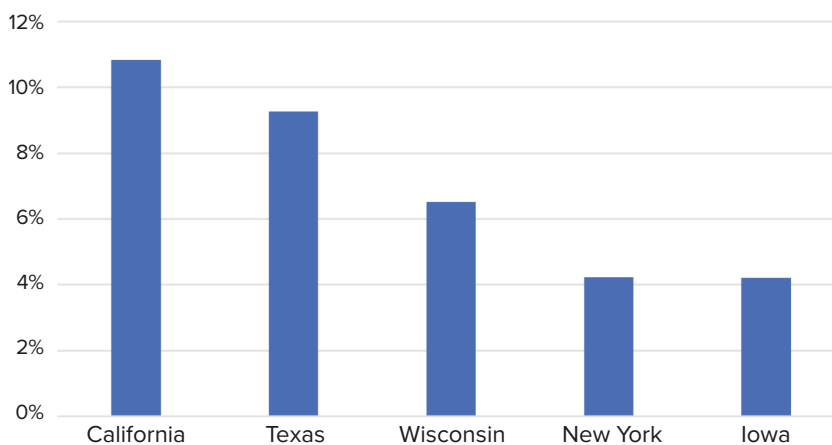
	Total	Grains	Vegetables & Fruits & Nuts				
			1112	1113	1114	FVH	FVH Share
Direct	11	1111	1112	1113	1114	FVH	FVH Share
Farms	513,137	119,412	16,269	38,510	21,317	76,096	15%
Expenses (\$ millions)	31,636	4,195	3,185	5,832	4,883	13,900	44%
Farms share	100%	23%	3%	8%	4%	15%	
Expenses Share	100%	13%	10%	18%	15%	44%	
Contract							
Farms	195,754	25,047	5,805	29,918	6,425	42,148	22%
Expenses (\$ millions)	7,595	383	1,499	3,176	949	5,169	68%
Farms share	100%	13%	3%	15%	3%	22%	
Expenses Share	100%	5%	20%	42%	7%	68%	
Total							
Farms	708,891	144,459	22,074	68,428	27,742	118,244	17%
Expenses (\$ millions)	39,231	4,578	4,684	9,008	5,377	19,069	49%
Farms share	100%	20%	3%	10%	4%	17%	
Expenses Share	100%	12%	12%	23%	14%	49%	
Ratio	1	1.7	0.3	0.4	0.3	0.3	

COA 2017 Table 75

**California Accounted for 44% of UI-covered Crop Employment in 2017;
The Top 5 States Accounted for 68%**



**California Accounted for 11% of UI-covered Livestock Employment in 2017;
The Top 5 States Accounted for 35%**



COA labor expenses are also concentrated by commodity. COA Table 75 shows that \$23 billion or 73 percent of the \$31.6 billion in direct-hire labor expenses were paid by crop farms in 2017, and \$6.4 billion or 84 percent of the \$7.6 billion in contract labor expenses were paid by crop farms. Fruits and nuts (NAICS 1113), nurseries (1114), and vegetables and melons (1112) accounted for \$9 billion, \$5.4 billion, and \$4.7 billion, respectively, of combined direct hire and contract labor expenses, for a total of \$19 billion or half of US farm labor expenses.

Most COA labor expenses are paid by large farm employers: The 10,000 farms that had direct-hire labor expenses of \$500,000 or more in 2017, two percent of all farms with labor expenses, accounted for 52 percent of all labor expenses. Contract labor expenses were more concentrated; the 10,000 farms with the most contract labor expenses incurred 72 percent of the total.

The COA is considered the most reliable source of data on farm labor expenses, and data are available by state and county. However, the labor expense data include employer payroll taxes and the cost of benefits to

employees, and the contract labor expenses include taxes and benefit costs as well as contractor profits, so labor expenses may be 20 percent to 30 percent higher than employee pre-tax pay. COA labor expenses may also include payments to family members.

Quarterly Census of Employment and Wages

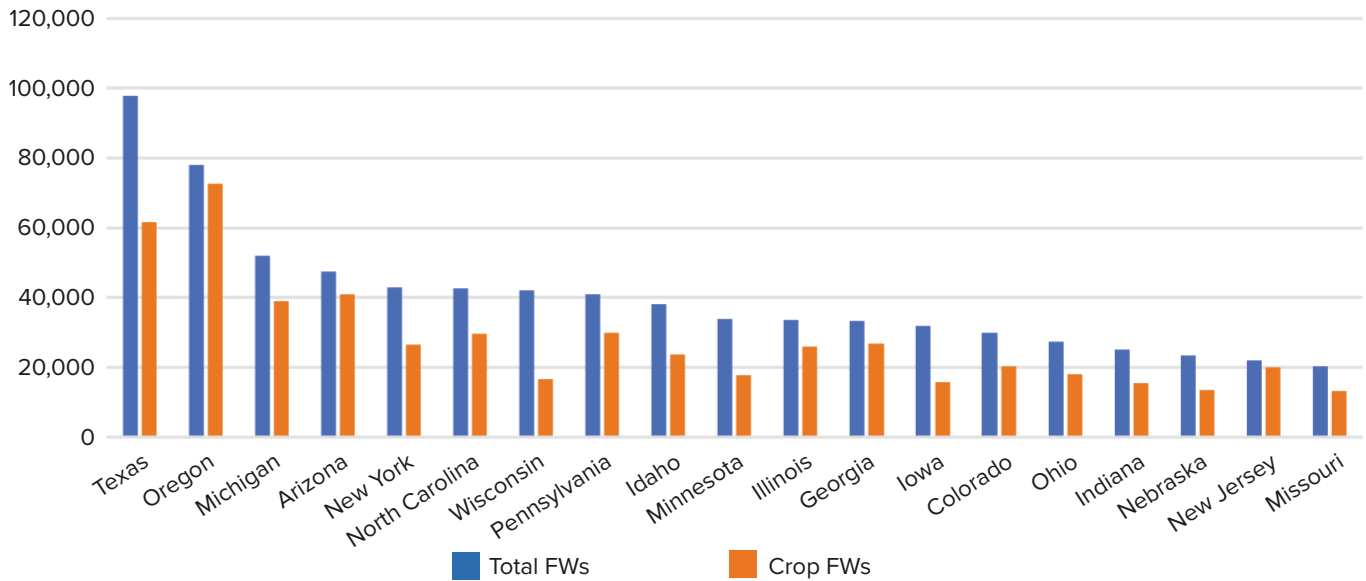
The QCEW collects employment and earnings data from employers who pay unemployment insurance taxes. The federal government sets minimum standards for UI programs, which are administered by states.

Employers report all employees who are on the payroll for the period that includes the 12th of the month. Most farm workers are paid weekly, which means that the average employment reported in the QCEW is employment during the second week of the month, so that employees who work only during the first, third, or fourth weeks of the month are not included in average employment. There are no data on the average hours of work performed during the survey week.

Wages are the gross earnings of all employees during the quarter, including those who were not on the payroll during the period that includes the 12th of the month. QCEW wages, in contrast to the COA, do not include employer-paid payroll taxes, workers compensation premiums, and health insurance and other employer benefit contributions.

The QCEW reported that crop employers (NAICS 111) paid \$18.2 billion in wages in 2017 and crop support employers (1151) paid \$10.5 billion, for a total \$28.7 billion. Livestock (112) employers paid \$9.9 billion, and livestock support employers paid \$1.1 billion, for a total of \$11 billion.

19 States had 20,000 to 98,000 Unique Farm Workers in 2017 Based on QCEW Data and Assumptions About Hours Worked



California accounted for 44 percent of QCEW crop wages paid in 2017, followed by WA with nine percent, TX with eight percent, and FL with six percent. California accounted for 11 percent of QCEW livestock wages paid in 2017, followed by TX with nine percent, WI with six percent, and IA, MN, and NY with four percent each. The top four crop states accounted for 65 percent of QCEW crop wages paid, and the top six livestock states accounted for 38 percent of QCEW livestock wages paid, indicating that crop wages are far more concentrated in a few states than livestock wages.

QCEW employment indicates the number and distribution of UI-covered farm workers across states. CA accounted for 43 percent of average UI-covered crop employment in 2017, followed by WA with 10 percent, FL with seven percent, and OR and TX with four percent each, so that the top five states accounted for 68 percent of UI-covered crop employment. The top five states for UI-covered livestock employment were CA with 11 percent, TX with nine percent, WI with six percent, and NY and IA, four percent each.

QCEW employment data can be used to estimate the number and distribution of farm workers by making assumptions about the average duration of farm employment. For example, if crop workers are employed an average of 1,040 hours or half of the year (QCEW assumes 52-40 hour weeks or a 2,080 work year), then average employment of 100 crop workers would represent 200 unique workers. If livestock workers are employed an average three-fourths of the year, then average employment of 100 livestock workers would represent 133 unique workers.

Combining 2017 QCEW employment and these average hours worked assumptions generates an estimate of 2.2 million unique farm workers, including 1.8 million crop and 389,000 livestock workers. Three states had over 100,000 farm workers: CA had 814,000, WA 193,000, and FL 131,000. The chart shows the states with 20,000 (MO) to 98,000 (TX) unique farm workers.

These data are illustrative rather than definitive. UI systems and seasonality vary across states, so that there should be separate multi-

pliers for each state. For example, with fewer workers covered by UI and shorter seasons in southeastern states, UI average employment does not reflect non-covered and short-season workers. If employment is raised to account for workers who are not covered, and the assumption that workers average 1,040 hours of farm work is reduced, the number of unique farm workers increases.

COA

There were four Censuses of Agriculture conducted in the 21st century, in 2002, 2007, 2012, and 2017. Between 2002 and 2017, farm sales almost doubled, from \$200 billion to \$388 billion, while the labor expenses of farmers and contract labor expenses rose 77 percent, from \$22 billion to \$39 billion. Labor expenses were about 10 percent of farm sales in 2017.

Direct-hire labor expenses rose 70 percent between 2002 and 2017, while contract labor expenses rose 117 percent. Both direct and contract labor expenses rose fastest between 2007 and 2012, up 23 and 44 percent, and both rose slowest

State and U.S. Estimates of Crop, Livestock, and All Farm Workers Based on QCEW Average Employment and Hours Worked (Including Support Employment)

	Ave crop employment	1040 hours	Ave live employment	1560 hours	Total FWs
Alabama	4,239	8,478	2,689	3,585	12,063
Alaska	0	0	349	465	465
Arizona	20,519	41,038	4,848	6,464	47,502
Arkansas	5,606	11,212	3,955	5,273	16,485
California	385,747	771,494	31,640	42,187	813,681
Colorado	10,134	20,268	7,184	9,579	29,847
Connecticut	3,225	6,450	1,419	1,892	8,342
Delaware	941	1,882	508	677	2,559
Florida	60,611	121,222	7,463	9,951	131,173
Georgia	13,388	26,776	4,881	6,508	33,284
Hawaii	4,673	9,346	928	1,237	10,583
Idaho	11,855	23,710	10,853	14,471	38,181
Illinois	13,042	26,084	5,690	7,587	33,671
Indiana	7,701	15,402	7,249	9,665	25,067
Iowa	7,822	15,644	12,281	16,375	32,019
Kansas	4,807	9,614	7,137	9,516	19,130
Kentucky	2,448	4,896	5,647	7,529	12,425
Louisiana	5,227	10,454	957	1,276	11,730
Maine	2,570	5,140	1,018	1,357	6,497
Maryland	3,143	6,286	1,827	2,436	8,722
Massachusetts	4,305	8,610	2,305	3,073	11,683
Michigan	19,465	38,930	9,705	12,940	51,870
Minnesota	8,923	17,846	11,967	15,956	33,802
Mississippi	4,986	9,972	3,351	4,468	14,440
Missouri	6,606	13,212	5,403	7,204	20,416
Montana	1,558	3,116	2,910	3,880	6,996
Nebraska	6,691	13,382	7,492	9,989	23,371
Nevada	2,430	4,860	1,187	1,583	6,443
New Hampshire	954	1,908	557	743	2,651
New Jersey	10,072	20,144	1,286	1,715	21,859
New Mexico	5,543	11,086	5,517	7,356	18,442
New York	13,293	26,586	12,354	16,472	43,058
North Carolina	14,885	29,770	9,589	12,785	42,555
North Dakota	3,809	7,618	724	965	8,583
Ohio	9,071	18,142	6,923	9,231	27,373
Oklahoma	3,227	6,454	7,207	9,609	16,063
Oregon	36,317	72,634	4,140	5,520	78,154
Pennsylvania	14,934	29,868	8,349	11,132	41,000
Rhode Island	555	1,110	183	244	1,354
South Carolina	5,233	10,466	1,920	2,560	13,026
South Dakota	2,054	4,108	3,574	4,765	8,873
Tennessee	4,559	9,118	1,748	2,331	11,449
Texas	30,818	61,636	27,053	36,071	97,707
Utah	2,570	5,140	2,801	3,735	8,875
Vermont	979	1,958	2,059	2,745	4,703
Virginia	6,421	12,842	4,506	6,008	18,850
Washington	91,349	182,698	7,530	10,040	192,738
West Virginia	536	1,072	263	351	1,423
Wisconsin	8,367	16,734	19,047	25,396	42,130
Wyoming	758	1,516	1,909	2,545	4,061
US total	888,966	1,777,932	292,082	389,443	2,167,375

between 2012 and 2017, when each was up 17 percent.

One explanation this faster and then slower growth in labor expenses is that 2007 marked the end of five years of rising unauthorized migration before the 2008-09 recession. The slowdown in unauthorized migration after 2008-09 put upward pressure on farm wages that was reflected in the 2012 COA, while the 2017 COA was conducted after states began to increase minimum wages.

The table ranks states by their share of COA labor expenses in 2017. Farm labor expenses in the 2017 COA were \$39 billion, so each one percent share is \$390 million.

The share of US farm labor expenses accounted for by the top five states was 47 percent in the four COA years of 2002, 2007, 2012, and 2017, with Florida's share falling and Washington's rising over these years.

The share of US labor expenses in the next five states rose slightly, from less than 12 percent to more than 13 percent. Each of the next five states accounted for 2 percent to 3 percent of US labor expenses, and IA and MI raised their shares, especially between 2012 and 2017.

The next five states accounted for 10 percent of US labor expenses, with ID standing out as a state whose share rose significantly between 2002 and 2017. The next five states accounted for 9 percent of US labor expenses, with the share of labor expenses in KS rising and the share in AZ and CO falling. The next five states accounted for 7 percent of labor expenses, with KY's share falling.

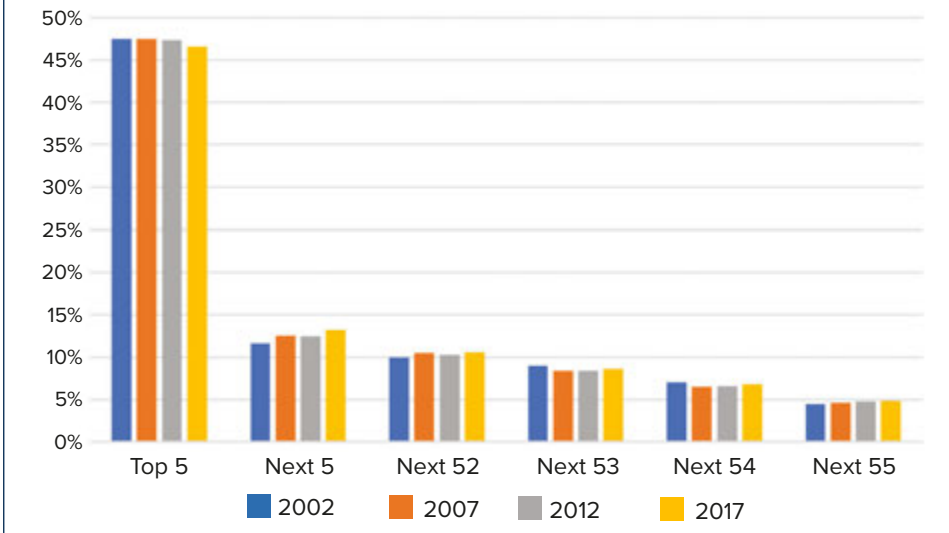
COA Labor Expenses Rose Fastest Between 2007 and 2012

COA Labor Expenses 2002-17, (\$ bills)

	Labor expenses	Contract	Total Labor
2002	18.6	3.5	22.1
2007	21.9	4.5	26.4
2012	27	6.5	33.5
2017	31.6	7.6	39.2
2002-17	70%	117%	77%
2002-07	18%	29%	19%
2007-12	23%	44%	27%
2012-17	17%	17%	17%

Source: Tables 1 and 4, COA

The Share of U.S. Farm Labor Expenses Fell Slightly for the Top 5 States and Rose for the Next 5 States Between 2002 and 2017



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The Share of COA Labor Expenses Rose Most in WA, and Fell Most in FL, Between 2002 and 2017

Share of COA Farm Labor Expenses by State					
	2002	2007	2012	2017	2017-02 Change
California	27.2%	27.6%	27.7%	27.6%	0.4%
Washington	4.8%	4.6%	5.5%	6.2%	1.4%
Texas	5.2%	5.2%	5.7%	5.2%	0.0%
Florida	7.2%	6.6%	5.5%	4.7%	-2.5%
Oregon	3.1%	3.4%	2.9%	3.0%	-0.1%
Wisconsin	2.4%	3.1%	2.8%	2.9%	0.4%
North Carolina	2.7%	2.8%	2.7%	2.8%	0.2%
Michigan	2.3%	2.5%	2.4%	2.7%	0.4%
Iowa	2.0%	2.1%	2.3%	2.5%	0.5%
Minnesota	2.2%	2.1%	2.2%	2.3%	0.1%
Pennsylvania	2.2%	2.5%	2.2%	2.3%	0.1%
New York	2.1%	2.3%	2.3%	2.2%	0.1%
Idaho	1.8%	2.1%	2.0%	2.1%	0.2%
Illinois	2.0%	1.9%	1.9%	2.0%	0.0%
Nebraska	1.8%	1.7%	1.9%	2.0%	0.2%
Kansas	1.7%	1.7%	1.8%	1.9%	0.2%
Ohio	1.8%	1.7%	1.7%	1.8%	0.0%
Georgia	1.8%	1.6%	1.6%	1.7%	-0.1%
Arizona	2.0%	1.7%	1.7%	1.7%	-0.3%
Colorado	1.8%	1.6%	1.6%	1.6%	-0.2%
Missouri	1.5%	1.4%	1.4%	1.6%	0.1%
Indiana	1.5%	1.3%	1.5%	1.5%	0.0%
Kentucky	1.6%	1.4%	1.4%	1.3%	-0.3%
Virginia	1.2%	1.2%	1.2%	1.2%	0.0%
Arkansas	1.3%	1.2%	1.2%	1.2%	-0.1%
Oklahoma	1.3%	1.2%	1.1%	1.0%	-0.2%
South Dakota	0.7%	0.7%	0.9%	1.0%	0.3%
North Dakota	0.7%	0.7%	0.9%	0.9%	0.3%
Tennessee	0.9%	1.0%	0.9%	0.9%	0.0%
New Jersey	0.9%	1.0%	0.9%	0.9%	-0.1%
Mississippi	0.9%	0.9%	0.9%	0.9%	-0.1%
New Mexico	1.0%	0.9%	0.9%	0.8%	-0.1%
Louisiana	0.9%	0.8%	0.9%	0.8%	-0.1%
Alabama	0.9%	0.9%	0.8%	0.8%	-0.1%
Montana	0.7%	0.7%	0.8%	0.8%	0.0%
Maryland	0.7%	0.6%	0.6%	0.7%	0.0%
South Carolina	0.8%	0.7%	0.8%	0.7%	-0.2%
Hawaii	0.8%	0.7%	0.8%	0.7%	-0.2%
Utah	0.6%	0.6%	0.6%	0.6%	0.0%
Connecticut	0.6%	0.6%	0.5%	0.5%	-0.1%
Massachusetts	0.5%	0.5%	0.6%	0.4%	-0.1%
Wyoming	0.4%	0.4%	0.4%	0.4%	0.0%
Maine	0.4%	0.4%	0.4%	0.4%	0.0%
Vermont	0.3%	0.3%	0.3%	0.3%	0.0%
Nevada	0.3%	0.3%	0.3%	0.2%	0.0%
Delaware	0.2%	0.2%	0.2%	0.2%	0.0%
West Virginia	0.2%	0.1%	0.2%	0.1%	0.0%
New Hampshire	0.2%	0.1%	0.2%	0.1%	0.0%
Alaska	0.1%	0.1%	0.1%	0.1%	0.0%
Rhode Island	0.1%	0.1%	0.1%	0.0%	0.0%
US	100.0%	100.0%	100.0%	100.0%	