

Are the H-2A Visa Program's Adverse Effect Wage Rates Statistically Representative of Farm Labor Market Wages?

Abstract

The Adverse Effect Wage Rates (AEWRs) are minimum wages that must be paid to non-immigrant agricultural guest workers working in the United States under the H-2A visa program. The AEWRs were established as a mechanism to prevent domestic farmworker wage depression resulting from an increase in the employment of foreign workers. Currently, the AEWRs are determined by the USDA's Farm Labor Survey (FLS). Due to the sampling framework, FLS wage estimates may not reflect the average hourly wage of farm employees who would likely compete with H-2A workers or the average hourly wage of farm employees in the local sample region. In this study, I analyze data from California to quantify the extent to which the FLS wage estimates may fail to reflect the average wage in the US farm labor market, and I estimate the amount of wages that H-2A employees received above market wage values during 2021. I consider two scenarios where (i) the AEWR would have been calculated with data from wage data reported by domestic workers who likely compete with H-2A employees and (ii) the FLS data are used for employees directly hired by farmers, but data from farm employees who are not directly hired by farmers would have been included in the calculation. In both cases, I find that the AEWR produced by the FLS significantly overstates the average hourly wage in California. My analysis indicates that the 2021 California AEWR was inflated by \$2.04 under scenario (i) and by \$0.93 under scenario (ii). My results suggest that the use of the FLS data and sample framework would have caused the average 2021 California H-2A employer to pay an excess of \$200,000 in wages under scenario (i) and \$92,000 under scenario (ii). Under both scenarios, the estimates suggest that a handful of employers incurred more than \$1 million in costs above market wage values in 2021.

Introduction

The Adverse Effect Wage Rates (AEWRs) are state-level minimum wages that must be paid to foreign agricultural guest workers working in the United States (US) under the H-2A visa program and the US farmworkers who work for H-2A employers. The AEWRs were originally implemented to help prevent US farmworkers from facing downward wage pressure as a result of competition from foreign workers (Congressional Research Service, 2008). However, unlike other minimum wages that change intermittently, the AEWRs are adjusted on an annual basis (typically upward), and many are concerned that the data source and methodology used to determine them are flawed (Crittenden, 2020; Lewison, 2021). The USDA’s Agricultural Labor Survey (also commonly referred to as the Farm Labor Survey or “FLS”) is currently being used to set most of the AEWRs. One concern about the use of the FLS as the basis for the AEWRs has to do with sample selection bias, which may create local wage estimates that are not statistically representative of employees in the local labor market. If the FLS does not permit a statistically representative measure of the average wage measure in the region, it may create unintended secondary consequences that could be harmful to US farm employees and employers. In this study, I analyze employment and wage data from California to quantify the extent to which the FLS wage estimates fail to reflect the average hourly wage in the crop farm labor market. I also provide estimates of the additional wages that California H-2A employees may have received during the calendar year of 2021 as a result of the non-representativeness of the FLS.

Background

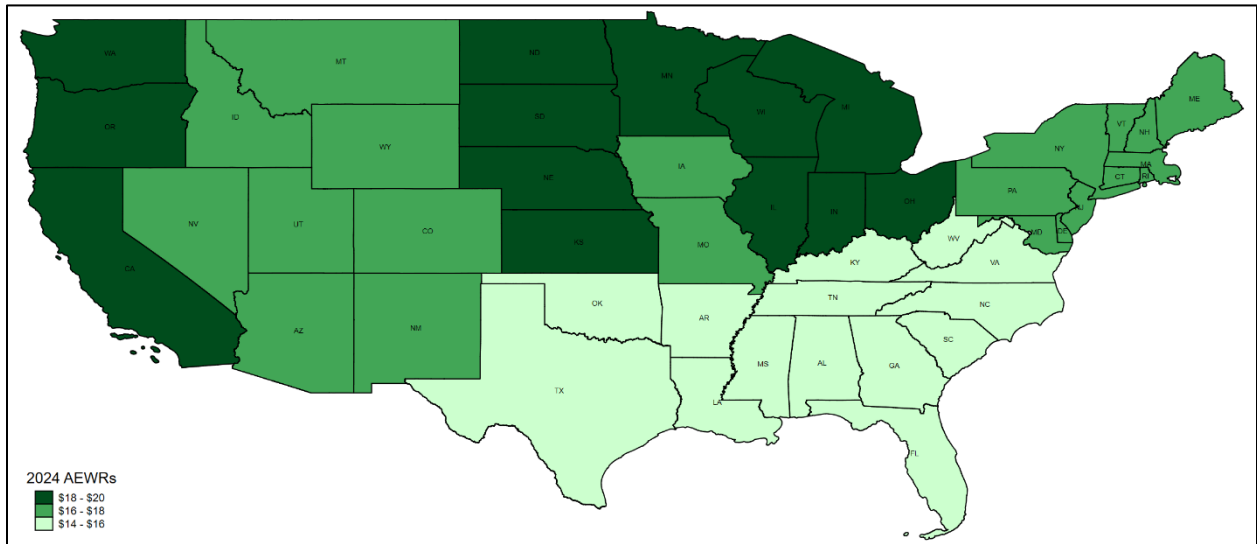
The FLS “provides the basis for employment and wage estimates for all workers directly hired by U.S. farms and ranches (excluding Alaska)” (NASS, 2021). In 2024, the AEWRs will range from a low of \$14.53 in the southeastern part of the country to a high of \$19.75 in California (see Figure 1). According to the instructions on the USDA’s Agricultural Labor Survey, employers are instructed to exclude wages paid to workers hired through farm labor contractors and custom workers (see Figure 2). The exclusion of these employees will cause the FLS average wage estimate to overstate the true average hourly wage in a region if (i) these workers are employed in the FLS region and (ii) the wages paid to these workers in the region are, on average, lower than the wages of the other employees included in the FLS.¹

Is the FLS Sample Representative of the Domestic Employees That Compete With H-2A Employees in California?

According to Castillo, Martin, and Rutledge (2022), 97% of the certified H-2A jobs in California were in crop production activities in fiscal year 2020, indicating that the relevant set of domestic employees that might compete with H-2A workers are involved, almost exclusively, in crop

¹ According to the USDA (2022), the National Agricultural Statistics Service (NASS) collects FLS data in all states except for California. In California, the California Employment Development Department (EDD) performs the data collection on behalf of NASS. The USDA (2022) Farm Labor Survey Methodology states that “All sampling units from the NASS California labor sample receive an EDD labor questionnaire which includes the NASS Agricultural Labor Survey questions as well as additional content.” Thus, the respondents in California answer the same questions that are on NASS survey forms.

Figure 1: Adverse Effect Wages Rates for 2024



Source: <https://quickstats.nass.usda.gov>.

Figure 2: USDA Farm Labor Survey Instructions for Reporting Wages

Section 1 - Paid Workers for October

October 2022

S	M	T	W	Th	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Instructions for Reporting Agricultural Workers

- Agricultural workers are workers directly hired and paid by the farm operation to perform work on a farm or ranch in connection with the production of agricultural products.
- INCLUDE part-time workers, paid family members, hired managers, and workers on paid leave. INCLUDE workers regardless of method of pay (hourly, salaried, piece rate, etc.).
- Do NOT INCLUDE workers hired through a contractor, custom workers (workers hired to use their machines to perform a service on the farm e.g., combining, fertilizing), retail workers, or value added workers (workers who materially alter the form of the product produced e.g., winery, dairy manufacturing plant workers).

Source: https://www.nass.usda.gov/Publications/Methodology_and_Data_Quality/Farm_Labor/11_2022/ALS_102022.pdf

production activities (see Table 1). To the extent that an AEW is required to prevent wage depression for California’s farm workforce, an estimate of the average wage of domestic crop employees is likely more relevant than the set of employees sampled by the FLS, which includes animal production employees. If animal production wages differ from crop production wages, the FLS wage estimates for California likely would not accurately reflect the average wage paid to competing US farm employees.²

Table 1: California H-2A Jobs by Industry, Fiscal Year 2020

Industry group	H-2A jobs certified	Percent of State H-2A jobs	Contract value (avg. \$)	Hours per week (avg.)	Weeks (avg.)
Crop support (inc. FLCs)	17,077	67	14,644	37	27
Fruits	3,956	16	13,102	39	23
Vegetables	2,172	9	11,621	39	22
Field and other crops	1,307	5	16,632	39	29
Animals	756	3	19,479	41	37
Nursery	185	1	20,177	46	30
Total or average	25,453	100	14,432	38	26

Source: <https://www.ers.usda.gov/publications/pub-details/?pubid=104605> (see page 36).

How Many Farm Labor Contractor and Custom Workers Are Employed in California?

California is the largest agricultural employer in the United States and has a total farm wage bill that accounts for roughly one-third of all farm wages paid in the United States. Over the past three decades, there has been a downward trend in direct hire employment and an upward trend in the use of support services, notably farm labor contractors, to bring workers to farms to perform tasks such as pruning, weeding, and harvesting (see Figure 3).

Figure 3: Share of California Farm Labor Contractor Employment



² According to the FLS data reported in NASS Quickstats (NASS, 2023), the average 2020 California animal wage was higher (\$16.22) than the average crop wage (\$16.01), and a simple calculation indicates that the FLS animal wage estimate was given 19% of the weight in the \$16.05 FLS estimate for the state (.19 x \$16.22 + .81 x \$16.01 = \$16.05).

Source: Quarterly Census of Employment and Wages: <https://www.bls.gov/cew/downloadable-data-files.htm>

Support service employment in California includes “Crop Support Services” (NAICS 1151) and “Animal Support Services” (NAICS 1152). Since 1990, crop support service employment has comprised 98% to 99% of the support service employment in California. Within crop support services, the largest share of employment is comprised of FLC workers (NAICS 115115), constituting two-thirds of all support service jobs. The role of FLCs in California has increased over the past few decades such that FLC workers comprised 35% of the total average annual employment in animal and crop production during 2020.

Custom workers may engage in soil preparation, planting, and cultivating services (NAICS 115112) or custom machine harvest services (NAICS 115113). As a result, employees who engage in this work are likely involved in the operation of some type of agricultural equipment. In 2020, custom workers comprised 4% of the total annual average employment in California.

Wage Analysis

To provide an estimate of the potential impacts of using the FLS to set the AEWR in California, I analyze wage data from the National Agricultural Workers Survey (NAWS; DOL, 2023a) and the Occupational Employment and Wage Statistics survey (BLS, 2023), as well as H-2A disclosure data from the US Department of Labor (DOL, 2023b) to estimate the AEWR and the total wage bill for California’s H-2A employers under two alternative scenarios.³ For every H-2A employer that had H-2A jobs certified to work in California during the calendar year of 2021, I calculated the number of jobs certified in their contracts, the lengths of each certified contract using the requested start and end dates in the applications, and the specified number of hours of work per week. For contracts that did not start and end in calendar year 2021, I determined the number of days that each contract overlapped with the calendar year 2021. For example, if a contract started on December 1, 2020 and ended on January 15, 2021, the number of days that contract employed H-2A workers for during 2021 would have been 15 days (i.e., January 1 – January 15). Similarly, if a contract started on December 1, 2021 and ended on January 15, 2022, the number of days that contract would have employed H-2A workers for during 2021 would have been 31 (i.e., December 1 – December 31). As such, I isolated the number of days of work that were contracted for work during 2021 that would have been subject to the 2020 FLS estimate (i.e., the 2021 AEWR) under the assumption that the AEWR would have gone into effect on January 1, 2021. I converted the length of the contracts from days into weeks by dividing the number of days by 7. Then, I calculated the total value of each certified H-2A contract during 2021 by using the following formula:⁴

$$\text{Contract Value} = \text{Certified Jobs} \times \text{Weeks Worked} \times \text{Weekly Hours} \times \text{Wage}$$

³ The National Agricultural Workers Survey contains a statistically representative sample of domestic crop production workers for California.

⁴ When the hours of work per week was missing for a contract in the database, I assigned those contracts the mean number of hours from the contracts in all other applications that were in effect during the calendar year 2021.

According to the most recent sample (FY2019 – FY2020) of data from the public access NAWS, California’s crop employees earned an average of \$14.01 (in \$2020), per hour.^{5,6} Thus the 2020 FLS average wage estimate of \$16.05 (and thus the 2021 AEW) for California was \$2.04 (\$16.05 – \$14.01 = \$2.04) higher than the average wage of crop production workers in the state.⁷

According to the NAWS, during fiscal years 2019 and 2020, California’s direct hire crop employees earned an average of \$14.23 (in \$2020) while California’s FLC employees earned an average of \$13.34 (in \$2020) such that direct hire employees earned \$1.82 per hour less than the FLS estimate, and FLC workers earned an average of \$2.71 less. This evidence suggests that the FLS estimate of the hourly wage in California likely overstates the true average wage in the region.

There were a total of 307 employers with H-2A jobs certified to work in the state of California during 2021. There were 37,270 H-2A jobs certified to work in California at some point during 2021.⁸ During 2021, the average duration of employment for a certified H-2A job was 151 days (22 weeks), and the average number of hours worked per week was 38. The value of an average H-2A job contract during 2021 was \$13,103. The total estimated wage bill for California H-2A employers during 2021 was \$488 million.

Scenario I: Using Domestic Crop Production Wages Set the AEW

If the 2020 FLS estimate of the average hourly wage for California was replaced by the average domestic crop employee wage reported by the NAWS, the 2021 California AEW would have been set at \$14.01 instead of \$16.05. I calculated the 2021 California H-2A contract values under the 2021 AEW (\$16.05) and under the value that would have been determined if the wage estimate was based on the NAWS (\$14.01). Under this scenario, California’s H-2A employers paid an estimated \$62 million in excess wages above what they would have been required to pay if the AEW reflected the average US crop farmworker wage. In this case, the average employer in the sample would have paid an estimated \$202,178 in wages above market value to H-2A workers if they had fulfilled all of the certified contracts. Under this scenario, 88

⁵ NAWS wage values were converted to real 2020 dollar values using the Consumer Price Index found at <https://www.bls.gov/cpi/data.htm>. I used the annual CPI values for the current, not seasonally adjusted, U.S. city average for all items. Because the NAWS samples are collected on a fiscal year basis (i.e., October 1 to September 30) such that 25% of the time in a given fiscal year is contained in the previous calendar year and 75% of the time in the current calendar year, I created a weighted average using CPI data from both years. For example, the wage values for fiscal year 2019 are converted to 2020 dollar values by using the following formula:

$$.25 \times \frac{CPI_{2020}}{CPI_{2018}} + .75 \frac{CPI_{2020}}{CPI_{2019}}$$

⁶ All NAWS wage averages were calculated according to the guidelines set forth by the US Department of Labor. These guidelines suggest using more than one year of data to construct averages and applying the sampling weight variable “PWTYCRD” (see https://www.dol.gov/sites/dolgov/files/ETA/news/pdfs/Analyzing%20the%20NAWSPAD_An%20Introduction.pdf).

⁷ For a list of 2021 AEWs, see https://www.ers.usda.gov/webdocs/charts/86864/aewr2021_d.html?v=318.5.

⁸ This figure includes jobs that were scheduled to start during 2020 and extended into 2021 and jobs that were scheduled to start during 2021 and extended into 2022.

employers would have paid more than \$100,000 in excess wages, 47 would have paid more than \$250,000, 26 would have paid more than \$500,000, and 16 would have paid more than \$1 million. Table 2 displays a list of the estimated excess wages that the top 10 H-2A employers paid during 2021 as a result of the use of the FLS instead of the NAWS.

Table 2: Estimated Labor Costs Above Market Value for the Top 10 H-2A Employers During 2021 Under Scenario I

Employer Name	Excess H-2A Wage Bill During 2021
Fresh Harvest, Inc.	\$6,594,198
Foothill Packing, Inc.	\$5,203,884
Rancho Nuevo Harvesting, Inc.	\$3,285,808
Elkhorn Packing Co. LLC	\$2,995,220
Royal Oak Ag Services, Inc.	\$2,854,433
Empire Farm Labor Contractor LLC	\$2,449,188
SARC, Inc	\$1,482,928
A. Oseguera Company, Inc.	\$1,282,515
MCF4 Solutions, LLC	\$1,254,273
Buenaventura Ranch, LLC	\$1,224,237

Scenario II: Including Farm Labor Contractor and Custom Workers in the Sample

In this section, I provide an estimate of the AEW and the excess wages that H-2A employers paid during 2021 as a result of the exclusion of FLC and custom workers from the FLS sample under the assumption that the FLS wage estimate accurately reflects the average wage of direct hire animal and crop employees.⁹ I assume that all FLC workers would have earned the average wage for FLC workers in the 2019-2020 NAWS (\$13.34 in \$2020) and that all custom workers would have earned a wage equivalent to that of the average hourly California wage of agricultural equipment operators (\$16.55 in \$2020) taken from the May 2020 Occupational Employment and Wage Statistics (OEWS) survey.¹⁰

Recall that FLC employment during 2022 was 35% of the animal and crop employment while custom workers accounted for 4% such that the average wage value calculated from the FLS might have represented only 61% of California’s agricultural workforce. Under these assumptions, if FLC and custom workers were included in the sample, the average wage estimate for California would have been \$15.12 instead of \$16.05 (.61 x \$16.05 + .35 x \$13.34 + .04 x \$16.55 = \$15.12). The results from this analysis indicate that California’s H-2A employees would have paid an excess of \$28 million in wages to H-2A workers if all the certified contracts

⁹ Note that the FLS wage estimate for crop workers was \$16.01 in 2020, which is \$2.00 higher than the average crop wage reported in the NAWS. As a result, this estimate may overstate the market wage by \$2.00.

¹⁰ See <https://www.bls.gov/oes/2020/may/oes452091.htm>.

were completed in 2021. In this case, the average employer in the sample would have paid an estimated \$92,170 in excess wages to H-2A workers if they had fulfilled all of the certified contracts. More than 50 employers would have paid an excess of at least \$100,000 in wages under this scenario. The excess wages paid by the top 10 H-2A employers under this scenario are displayed in Table 3.

Table 3: Estimated Costs Above Market Value for the Top 10 H-2A Employers During 2021 Under Scenario II

Employer Name	Excess H-2A Wage Bill During 2021
Fresh Harvest, Inc.	\$3,006,178
Foothill Packing, Inc.	\$2,372,359
Rancho Nuevo Harvesting, Inc.	\$1,497,942
Elkhorn Packing Co. LLC	\$1,365,468
Royal Oak Ag Services, Inc.	\$1,301,286
Empire Farm Labor Contractor LLC	\$1,116,541
SARC, Inc	\$676,041
A. Oseguera Company, Inc.	\$584,676
MCF4 Solutions, LLC	\$571,801
Buenaventura Ranch, LLC	\$558,108

Conclusion

Based on my analysis of employment and wage data for the state of California, nearly all the H-2A workers employed in California (97% in fiscal year 2020) are engaged in crop production. The FLS hourly wage estimates include employees involved in animal production, so, to the extent that the wages of animal production employees differ from those of crop production workers, the FLS estimates will not provide an accurate measure of the average wage of US-based farm employees that would tend to compete with H-2A employees. Second, the average domestic crop employee wage in California calculated from the most recent round of public-access NAWS data (FY2019 – FY2020) was \$2.04 (in \$2020) less than the 2020 FLS state estimate of \$16.05. This finding indicates that the FLS significantly overstates the average wage of US-based crop production employees in California. Third, FLC employment has risen both in terms of the number of jobs and the share of California’s farm workforce. In 2020, FLC employment accounted for 35% of the total average animal and crop employment in California and custom workers accounted for 4%. According to the NAWS, FLC employees in California earned an average \$13.34 (\$2.71 less than the FLS state estimate and \$0.90 less than direct hire crop employees) during FY2019 and FY2020. Employees of farm labor contractors are excluded from the FLS sample, so the FLS estimate significantly overstates the average wage in California.

If the FLS estimate does, in fact, capture the average hourly wage of direct hire animal and crop

employees in California such that the 2020 estimate of \$16.05 is representative of 61% of the workforce (see footnote 9), the inclusion of both farm labor contractor (35%) and custom service (4%) employees in the sample could have reduced the 2020 FLS estimate (and thus the 2021 AEW) by \$0.93 to \$15.12. Such a difference would have caused California's H-2A employers to overpay \$28 million to H-2A employees during 2021 (an average of \$92,000 per employer). In sum, the results of this analysis indicate that the AEW produced by the FLS for California does not provide an accurate estimate of the average hourly wage of the state's crop production employees.

References

Castillo, M., Martin, P., and Rutledge, Z. 2022. "The H-2A Program in 2020." USDA-ERS Economic Information Bulletin No. 238.

BLS (US Bureau of Labor Statistics). 2023. Occupational Employment and Wage Statistics. <https://www.bls.gov/oes/>.

Congressional Research Service. 2008. Farm Labor: The Adverse Effect Wage Rate (AEWR). Congressional Research Service Report RL32861. Retrieved February 22, 2021 from: <https://nationalaglawcenter.org/wp-content/uploads/assets/crs/RL32861.pdf>.

Crittenden, A. 2020. The Adverse Effect of the H-2A Wage Rate. Utah Farm Bureau Federation. Retrieved June 7, 2021 from: <https://www.utahfarmbureau.org/Article/The-Adverse-Effect-of-the-H2A-Wage-Rate>.

DOL (US Department of Labor). 2023a. National Agricultural Workers Survey. [dataset]. <https://www.dol.gov/agencies/eta/national-agricultural-workers-survey>.

DOL (US Department of Labor). 2023b. H-2A Disclosure Data. [dataset]. <https://www.dol.gov/agencies/eta/foreign-labor/performance>.

Lewis, P. 2021. Federal Regulations Push Farm Labor Costs Higher at a Difficult Time for Farmers. Washington Policy Center Blog. Retrieved June 7, 2021 from: <https://www.washingtonpolicy.org/publications/detail/federal-regulations-push-farm-labor-costs-higher-at-a-difficult-time-for-farmers>.

NASS. 2021. Surveys: Farm Labor. Retrieved February 22, 2021 from: https://www.nass.usda.gov/Surveys/Guide_to_NASS_Surveys/Farm_Labor.

NASS. 2023. Quickstats. [website]. <https://quickstats.nass.usda.gov/>.

USDA. 2022. Farm Labor Methodology and Quality Measures. https://www.nass.usda.gov/Publications/Methodology_and_Data_Quality/Farm_Labor/11_2022/fmlaqm22.pdf.