

National Agricultural Workers Survey
Methodological Changes for Fiscal Years 2020-2021

Supporting Documentation for Part B of the Information Collection Request
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This document describes three changes to the National Agricultural Workers Survey (NAWS) methodology for the fiscal year (FY) 2020 data collection (Cycles 95, 96, and 97), and one change that the Employment and Training Administration (ETA) is contemplating for the FY 2021 data collection.

For FY 2020, ETA's NAWS contractor made the following changes:

- Redefined the Farm Labor Areas (FLAs) in some regions;
- Updated the employer sampling frame in California with Farm Labor Contractor Registration Lists provided by the County Agricultural Commissioners' Offices; and
- Updated seasonality estimates with data from the 2017 Census of Agriculture (CoA).

For the FY 2021 data collection, ETA, through its NAWS contractor, anticipates:

- Using data from the Office of Foreign Labor Certification (OFLC) on H-2A certifications to improve interview allocations.

New FLAs

FLAs are the NAWS's primary sampling unit. They consist of either a single large county or a cluster of contiguous counties with similar crop labor patterns. FLAs were originally developed for the FY 1999 NAWS interviewing year using 1992 CoA data on hired and contract labor expenditures and 1970s era Employment and Training Administration (ETA) mappings of seasonal farm labor concentrations. One reason for developing the FLAs was to have similar-sized primary sampling units.

The FLA definitions are reviewed every five years when new CoA data becomes available. When the 2017 CoA data became available, NAWS staff conducted a more extensive update of the FLAs. This was done for several reasons. First, cropping and labor patterns had changed

since the FLAs were originally developed. Second, the NAWS now utilizes probability proportional to size (PPS) sampling for the FLA rosters, and having roughly equal-sized units did not allow the sampling process to take advantage of the properties of PPS. Furthermore, some units were unwieldy, since making equal size FLAs for sparsely-populated counties meant that some FLAs were extremely large, encompassing half a state. These FLAs caused increased travel costs and also resulted in instances where interviewers went to survey counties and found few or no farm workers present and then had to travel a far distance to the next county selected from the FLA.

In several regions, NAWS staff constructed new FLAs. Staff defined the new FLAs using: a) CoA data, b) the Bureau of Labor Statistics' (BLS) Quarterly Census of Employment and Wages (QCEW) data, and c) maps showing major geographic barriers and freeways to ensure the ability to travel within a FLA. In certain regions, the original FLA definitions were working well and so they were not changed. The original FLAs were kept in the following regions: California, Mountain I and II, Mountain III, and Pacific.

To test the new FLAs, FLA rosters were drawn 30 times for both the new and old FLAs using PPS sampling. The efficiency of the roster was measured by the average amount of crop labor expenditures for the FLAs on the roster. For each cycle, a two-sided two-sample t-test between the difference of these means was conducted. The null hypothesis was that there was no difference between the original and updated FLAs. The null hypothesis was rejected at the 95 percent confidence level for the fall and spring cycles, and all three cycles were statistically significant at the 90 percent confidence level.

Making smaller groupings of counties and regrouping based on new data is expected to lower travel costs since PPS selection will mean interviewers are more often going to counties with sufficient eligible crop workers to complete their allocations in the first county. Additionally, when a second county is needed, travel costs within FLAs will be reduced. The smaller groupings of counties increased the number of FLAs from 497 to 928.

Updating the Employer Sampling Frame for California

One of the challenges of the NAWS is that there is no agreed-upon universe list of crop employers. NAWS staff compile a crop employer sampling frame using administrative lists, marketing lists, online searches and other sources. The BLS provides names of agricultural employers in North American Industry Classification System (NAICS) codes 111 and 1151 directly to the NAWS contractor per the terms of an agreement between ETA and the BLS. The employers on the BLS list are those who pay unemployment insurance (UI) taxes. In states where UI is not mandatory for all agricultural employers, the list of employers from BLS is supplemented with other sources.

One issue with the BLS lists is that farm labor contractors (FLCs) report wages and pay UI payroll taxes in one county, but may work in multiple counties throughout a state. Research has shown this is true for California FLCs. According to CoA and BLS data, California is the state that has the largest amount of FLC labor. California FLCs are required to register with the County Agricultural Commissioner in each county where they work. To enrich the NAWS employer sampling frame, FLS lists were obtained for sampled counties and used to update the California employer sampling frame. The new method provides a more accurate depiction of FLC operations in California.

Updating Seasonality Estimates

The size measure used in sampling the FLAs is the seasonally-adjusted estimate of crop labor expenditures. This measure is calculated using farm labor expenditure data obtained from the most recent CoA and seasonal adjustment factors derived from the QCEW. The seasonal adjustment factors are made by aggregating the QCEW's reported monthly employment figures for the months that correspond to each of the NAWS cycles (e.g., June, July, August, and September for the summer cycle) and dividing them by the sum of workers in all months. Thus, the seasonal adjustment factor for each cycle is the percentage of annual employment corresponding to that cycle. The seasonality estimates are updated every five years when the new CoA data becomes available. When the 2017 CoA data became available, the seasonality estimates were updated using the 2018 QCEW. The size measure for the FLA labor force was then calculated as the amount of farm labor expenditures from the 2017 CoA multiplied by the percentage of crop employment for each cycle calculated from the QCEW.

H-2A Workers

With the increase of H-2A workers in crop agriculture and their concentration in some geographic regions, it is becoming difficult for interviewers to find domestic crop workers to interview in some locations. NAWS staff is reviewing and piloting ways to adjust the interview allocations using OFLC data on the number of H-2A workers certified per county. Since allocations are based on hired and contract labor expenses, an adjustment could be made by subtracting the value of 70 percent of the H-2A contracts certified in a county. Seventy percent is used because employers are required to pay a minimum of 70 percent of the contract amount to the workers. This projected change is expected to make the survey more efficient by having interview allocations that more accurately reflect the domestic crop labor force.