



## A statistical portrait of hired farmworkers

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Farm labor data from the decennial censuses have been used in research on occupational trends, labor force stratification, occupational segregation and inequality, and labor market structure.<sup>1</sup> However, certain limitations should be considered when using these data. Census occupational codes are determined from the primary work activity of the respondent in the week prior to completing the census questionnaire, generally the last week of March. Because of the seasonal nature of agriculture, many farmworkers are excluded from the farm labor categories listed in the decennial census if they were not working on farms in March. These exclusions suggest a significant undercounting in the number of farmworkers and indicate some caution in the use of census farm labor data.

Census data are useful for comparing occupational groups because data on a large number of occupations are collected simultaneously. However, problems arise when these data are used to describe work activities which are characterized by seasonality and a high degree of labor turnover. As noted, agricultural work is particularly susceptible to this problem.

According to the U.S. Department of Agriculture's Hired Farm Working Force Survey, only about one-third of the hired farmworkers who worked sometime during 1981 were employed during March. Instead, they were more likely to have worked during the months of June, July, and August. This suggests the census may be missing as many as two-thirds of the Nation's hired farmworkers.

This study uses data from the 1981 Hired Farm Working Force Survey to evaluate the usefulness of census data for farm labor research. The analysis focuses on two groups of workers: (1) those who did hired farmwork during March and most closely represent the hired farmworker population as measured by the census and (2) those who were employed at other times of the year and were therefore excluded from the census farm labor categories.<sup>2</sup> This report examines

the composition of each group of workers and investigates differences in socioeconomic characteristics between the two groups.

### Concepts and measurement

The biennial Hired Farm Working Force Survey is conducted for the Economic Research Service of the U.S. Department of Agriculture by the Bureau of the Census as a supplementary part of the December Current Population Survey.<sup>3</sup> Data from this survey indicate that there were 2.5 million persons 14 years of age and over who did farmwork for cash wages or salary at some time during 1981, even if only for 1 day. For purposes of comparability with decennial census data, however, population coverage was changed to include only those workers 16 years of age and over. Approximately 282,000 persons 14 to 15 years old (11 percent of the total) were excluded from the analysis.

Although data from the Hired Farm Working Force Survey are collected biennially and were not available for the 1980 census year, the 1979 and 1981 survey data show that the basic employment and demographic characteristics did not change significantly, suggesting that information for 1981 closely approximates 1980 data.

Hired farmwork, as defined in this survey, includes work done on the farm for cash wages or salary in connection with the production, harvesting, and delivery of agricultural commodities, as well as farm management if done for cash wages. Exchange work, work done by unpaid family members, customwork, nonfarmwork done on a farm, or work done exclusively for "pay in kind" are not included. Exhibit 1 lists the agricultural-related occupations reported in the 1980 census. The data from the Hired Farm Working Force Survey most closely approximate the hired segment of those census categories of managers, supervisors, farmworkers, and nursery workers shown in exhibit 1.

The 1980 census shows there were 792,000 wage and salary workers in the five agricultural occupations listed in exhibit 1. In comparison, the Hired Farm Working Force Survey of 1981 reports there were about 818,000 persons who did hired farmwork in March. These two numbers were not significantly different. This suggests that Hired Farm Working Force Survey data on workers in March approximate the hired farmworker population measured by the

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**Exhibit 1. Farming, forestry, and fishing occupations reported in the 1980 decennial census**

Census code	Occupation
<b>Farm operators and managers</b>	
473	Farmers, except horticultural
474	Horticultural specialty farmers
475 <sup>1</sup>	Managers, farms, except horticultural
476 <sup>1</sup>	Managers, horticultural specialty farms
<b>Other agricultural and related occupations</b>	
477 <sup>1</sup>	Farm occupations, except managerial
479 <sup>1</sup>	Supervisors, farmworkers
483	Farmworkers
484 <sup>1</sup>	Marine life cultivation workers
485	Nursery workers
486	Related agricultural occupations
487	Supervisors, related agricultural occupations
488	Groundskeepers and gardeners, except farm
489	Animal caretakers, except farm
494	Graders and sorters, agricultural products
495	Inspectors, agricultural products
<b>Forestry and logging occupations</b>	
496	Supervisors, forestry and logging workers
497	Forestry workers, except logging
498	Timber cutting and logging occupations
<b>Fishers, hunters, and trappers</b>	
499	Captains and other officers, fishing vessels
	Fishers
	Hunters and trappers

<sup>1</sup>Indicates categories which most closely match the definition of hired farmworker used in this article. Unpaid family workers are not included in these categories. Some graders and sorters (488) would be included if this kind of work was done on the farm.

SOURCE: Census of Population and Housing, 1980: Public-use microdata samples technical documentation (U.S. Bureau of the Census, February 1983).

census, and are useful for examining the strengths and weaknesses of farm labor data from the decennial census.

**Farmworkers employed in March**

What are the characteristics of hired farmworkers who work in March? Who are those workers not included in the census because they work in other months? How do these two groups of workers differ in terms of demographic and economic characteristics?

**Agricultural dependence.** In general, hired farmworkers employed in March appear to be strongly attached to farmwork as an occupation. About 75 percent of these workers performed farmwork in at least 9 other months during the year and more than one-half did farmwork in all 12 months of 1981. In general, these workers did more than just a few days of work each month. Only 5 percent were casual workers with less than 25 days of farmwork during the year and 22 percent were seasonal workers with 25 to 149 days. The remaining three-fourths were regular or year-round workers who performed 150 days or more of farmwork in 1981 (table 1). On balance, these workers averaged 218 days of farmwork during the year.

More than 70 percent of the workers who responded to a survey question concerning their principal activity during the year cited hired farmwork as their major job, while the remainder indicated they were engaged primarily in other farmwork, nonfarmwork, were unemployed, attending school,

keeping house, or were otherwise not in the labor force most of the year.

In 1981, farmworkers employed on farms in March received mean earnings of \$6,979 from all sources of earnings with over \$6,000 from farmwork alone (table 2). Nine of 10 workers received at least half of their total earnings from farmwork. Most of these workers had no other job. Only one-fourth did any nonfarm work during the year, and they worked an average of 101 days at their nonfarm jobs. The largest proportions were nonfarm laborers or craft workers.

**Demographic composition.** Workers were generally 20 to 45, with an average age of 34 (table 3). They were likely to be household heads and were probably largely responsible for their families' support. The majority were male (89 percent) and married (58 percent), and had an average family size of four. Only 1 of 4 lived on farms.

**Economic and educational status.** In general, hired farmworkers are one of the more economically and educationally disadvantaged groups. They have few labor market skills, little education, and limited opportunity for employment in higher skilled, better paying jobs.<sup>4</sup> The data on workers employed in March support these conclusions. In 1981, workers received about \$7,000 from all sources (mostly from farmwork) compared with over \$13,000 received by all U.S. nonagricultural private sector production workers.<sup>5</sup>

**Table 1. Employment characteristics of farmworkers in March and other months, 1981**

Worker characteristic	Total workers	Workers employed in March	Workers employed in other months
Number of workers	2,210,000	818,000	1,392,000
	Percent		
Proportion of earnings from farmwork	100	100	100
0-24 percent	22	6	132
25-49	8	5	19
50-99	12	13	12
100	58	76	147
Duration of farmwork:			
Fewer than 25 days	37	5	155
25-149	34	22	141
150-249	12	26	14
250 and over	17	47	10
Principal employment status during year:			
In labor force:			
Hired farmwork	32	71	19
Other farmwork <sup>2</sup>	4	4	4
Nonfarmwork	19	9	125
Unemployed	4	2	15
Not in labor force:			
Keeping house	9	3	112
Attending school	26	9	137
Other	6	2	18

<sup>1</sup>Differences between March and other workers are significant at the 95-percent confidence level.

<sup>2</sup>Includes operating a farm or unpaid family labor.

SOURCE: Hired Farm Working Force Survey of 1981 (U.S. Department of Agriculture, Economic Research Service).

**Table 2. Average days worked and earnings received by farmworkers in March and other months, 1981**

Worker characteristic	Total workers	Workers employed in March	Workers employed in other months
Number of workers	2,210,000	818,000	1,392,000
<b>Average dollars</b>			
Total earnings	4,756	6,979	<sup>2</sup> 3,449
Farm earnings	2,925	6,080	<sup>2</sup> 1,071
Nonfarm earnings <sup>1</sup>	4,308	3,697	<sup>2</sup> 4,473
<b>Average days</b>			
Days of farmwork	105	218	<sup>2</sup> 39
Days of nonfarm work <sup>1</sup>	130	101	<sup>2</sup> 138

<sup>1</sup>Based on 939,000 persons (199,000 in March; 740,000 in other months) who did both farm and nonfarm work.

<sup>2</sup>Differences between March and other workers are significant at the 95-percent confidence level.

SOURCE: Hired Farm Working Force Survey of 1981 (U.S. Department of Agriculture, Economic Research Service).

However, earnings data should not be used alone to define the economic well-being of farmworkers. Family income and family size must also be considered. A modified version of the 1981 official Federal poverty criteria<sup>6</sup> showed that about 31 percent of farmworkers employed in March were in low-income families. Among minority workers, low income was even more widespread. Hispanic and black and other workers made up about 17 percent each of all hired farmworkers employed in March.<sup>7</sup> Yet, over 40 percent of both the Hispanic and black and other groups were in low-income families, compared with only 25 percent of the white workers.

Homeownership is also an indicator of economic status. Less than one-half of the workers employed in March 1981 owned or were buying their own home or lived with a family that did. The remainder were renting or living in a domicile that did not require cash rent.

The low economic status of those farmworkers who were employed in March compared to other U.S. workers is probably a result of a strong dependence on relatively low agricultural earnings, and limited skills and opportunities for higher paying nonfarm jobs. Low levels of education may contribute to these workers' dependence on low-wage jobs. In 1981, farmworkers 25 years of age and over had completed a median of 10.3 years of school, but there were differences by race or ethnic group. Hispanic workers had a median of 5.9 years of schooling; blacks and others had completed a median of 8.2 years; and whites had a median educational level of 12.2 years.

### Farmworkers employed in other months

*Agricultural dependence.* Unlike the workers who did farmwork in March, farmworkers employed in other months tended to be seasonal workers with a relatively weak attachment to hired farmwork. More than half were casual workers doing less than 25 days of farmwork; 41 percent

were seasonal workers doing 25 to 149 days. On average, these workers completed 39 days of farmwork in 1981.

More than half of these workers were not in the labor force most of the year and the majority of these were students. Twenty-five percent cited nonfarm work as their major activity and relied on farmwork for supplemental earnings. Less than 10 percent cited hired farmwork as their major activity during the year.

Workers employed in the other months were dependent on agriculture for their earnings. About 60 percent received at least half or more of their total earnings from farmwork. Generally, this was because a large proportion of these workers were out of the labor force most of the year and had no other source of earnings.

*Demographic composition.* In contrast to workers employed in March, those performing farmwork in the other months were younger and tended to be single and not the household head. A large proportion were students and homemakers and they were likely to be white, female, and living in nonfarm places. The majority (61 percent) owned their own home or lived with a family that did.

**Table 3. Demographic characteristics of farmworkers in March and other months, 1981**

Worker characteristic	Total workers	Workers employed in March	Workers employed in other months
Number of workers	2,210,000	818,000	1,392,000
<b>Percent</b>			
Total	100	100	100
Age:			
16-19	28	12	<sup>1</sup> 38
20-24	20	21	20
25-34	23	27	<sup>2</sup> 20
35-44	11	17	17
45-54	8	12	16
55 and over	10	11	9
Race or ethnic group:			
White	72	66	176
Hispanic	14	17	11
Black and other	14	17	13
Sex:			
Male	78	89	171
Female	22	11	129
Household status:			
Head	48	65	137
Spouse	9	5	112
Other	43	30	151
Residence:			
Farm	17	24	113
Nonfarm	83	76	187
Homeownership:			
Own or buying home	56	46	161
Renting	29	27	30
Other	15	27	19

<sup>1</sup>Differences between workers employed in March and those employed in other months are significant at the 95-percent confidence level.

<sup>2</sup>Differences between workers employed in March and those employed in other months are significant at the 90-percent confidence level.

SOURCE: Hired Farm Working Force Survey of 1981 (U.S. Department of Agriculture, Economic Research Service).

*Economic and educational status.* Workers employed in the other months generally did farmwork on a casual or seasonal basis. They worked fewer days at farmwork than those working in March and received lower farm earnings. In 1981, their farm earnings averaged \$1,071 compared to \$6,080 for those employed in March. Their earnings from nonfarm work were higher than those working in March, but their overall earnings were lower. They were probably not largely responsible for their own or their families' support. Their average family income was \$16,259, slightly above that of those who did farmwork in March (\$14,329). However, both groups were considerably below the U.S. average for all families (\$25,838).<sup>8</sup> Based on family size and income data, almost a third of the workers who were employed at other times of the year were living in low-income families. This proportion was similar to those who worked in March.

Workers in other months who were 25 years of age and over had completed more years of schooling (median of 11.8 years) than those who worked in March (median of 10.3 years). However, both groups had less education than the total population 25 years and older (median of 12.5 years).<sup>9</sup>

### Summary and implications

The decennial census information has some clear advantages over other sources of farm labor data. The census is the only complete enumeration of the national labor force, including categories for farm labor. It offers geographic detail not available in other data sources and provides a variety of information for all States, counties, and other areas within States, and various categorizations of place of residence. Census farm labor data also offer the advantage of historical comparability, at least at the broadest classification level, and efforts are being made to describe and improve the comparability at more detailed occupational levels.<sup>10</sup> Finally, census counts are invaluable for examining characteristics of different occupational categories. However, there are serious limitations which must be considered in using census farm labor information.

Census occupational data are generally used under the assumption that workers are employed in the same occupation on a year-round basis. This implies that the basic characteristics of workers in an occupational group would be similar regardless of the month of data collection. However, these assumptions cannot be extended to all hired farmworkers. Data on those working in March generally describe those farmworkers who are committed to and economically dependent on hired farmwork for most of the year. Yet, almost one-third of these workers cited nonfarmwork or not in the labor force as their primary activity during the year. These workers would not identify farmwork as an occupation. Although almost 9 percent of those who worked in the other months cited hired farmwork as their major activity, census counts do not include them in the farm labor

categories. Thus, census data, which focus on those workers who are attached to a particular work activity on a year-round basis, do not perfectly measure farmworkers from this perspective.

Also, census tallies are often used to describe an occupational category in terms of the total labor force involved in that particular activity. Census data are useful for identifying the numbers and characteristics of physicians or economists, for example, because in all probability, the data vary little from month to month. However, because of the seasonality in agriculture and the high turnover of farmworkers, census data collected in March could exclude as many as two-thirds of all hired farmworkers. Also, the socioeconomic characteristics of workers employed in March differ considerably from those of workers employed in other months. Thus, census data are not useful for examining farm laborers from a total labor force perspective.

The Hired Farm Working Force data for March workers, used as a proxy for census data, characterize hired farmworkers as a group of workers who are economically dependent on agriculture. The majority are white, male, and the household heads. They are most likely to live in nonfarm areas and generally do not own their own homes. These workers often have low levels of education and they are highly dependent on their farmwork in terms of days worked and earnings received. Most have no other source of earnings.

However, if workers employed in March are combined with those working in the other months, these generalities would change, and in some cases, patterns would be reversed. With the combination of the two groups, the average worker becomes younger and more educated. He or she is less likely to be white and less likely to be a household head. The employment and economic variables are affected even more. Workers employed in March report higher farm earnings than those working in the other months. When the two groups are combined, overall averages for farm earnings, as well as for total earnings and days of farmwork, decrease to reflect the influx of the more seasonal workers. Thus, an employment concept based on census data obtained in March and a labor force supply concept which includes all persons doing hired farmwork during the year provide two significantly different descriptions of U.S. farmworkers.

These findings suggest that research using census farm labor data would have different study results if the data were modified to include all workers. For example, in an earlier article, Dixie Sommers used 1970 census data to rank occupations, including farm laborer, by median earnings, and to examine the effects of age, education, and full-year employment on earnings of men and women.<sup>11</sup> If Sommers had used data for all hired farmworkers in her study of occupational rankings, the median earnings of farmworkers would still be ranked toward the bottom of the occupational list, although there might be slight shifts with other low-paying occupations. However, Sommers also examined the

effects of age, education, and duration of employment on the median earnings of the occupational groups. Had she included all farmworkers in her analysis, the effects of the variables on median earnings could have significantly changed her results because all farmworkers are younger, have more years of education, and spend less time doing farmwork than farmworkers reported by the census.

Research findings on historical occupational trends could also be affected. While the number of hired farmworkers has been relatively stable during the 1970's, this stability has not been evident in all segments of the farmwork force. Between 1970 and 1981, the number of regular and year-round workers who worked 150 days or more showed a significant increase of 47 percent. This trend should be reflected in the analysis of 1970-80 census data. However, the increase was partially offset by declines in the numbers of casual and seasonal workers performing less than 75 days of farmwork. This pattern would not be visible in the census data. Because the characteristics and employment patterns of all segments of the hired farmwork force do not change consistently, historical analysis based on census data may obscure important patterns and trends relating to hired farmworkers.

Thus, farm labor data from the decennial census require careful use and explicit caveats as to which group is being measured and what implications this has for farm labor research. Census data, improperly used, could lead us to believe that farmworkers are a relatively established year-round work force that is strongly attached to agriculture in terms of days worked and earnings received. This is clearly not the case. □

—FOOTNOTES—

<sup>1</sup> See Constance Bogh DiCesare, "Changes in the occupational structure of U.S. jobs," *Monthly Labor Review*, March 1975, pp. 24-34; Curtis L. Gilroy, "Investment in human capital and black-white unemployment," *Monthly Labor Review*, July 1975, pp. 13-21; David L. Rogers and Willis J. Goudy, "Community Structure and Occupational Segregation, 1960 and

1970," *Rural Sociology*, Summer 1981, pp. 263-81; Wendy Wolf and Neil Fligstein, "Sex and Authority in the Workplace: The Causes of Sexual Inequality," *American Sociological Review*, April 1979, pp. 235-52.

<sup>2</sup> Depending on the time of completion of the census form, an individual could be reporting his or her occupation based on work activity during a week in March or in April. However, because census forms are to be returned by April 1, this study uses March as the month most often reported by respondents. A comparison of data from the Hired Farm Working Force Survey for March and April indicates that the numbers and characteristics of farmworkers in these months did not vary significantly.

<sup>3</sup> For additional information on survey design and reliability of estimates, see Susan L. Pollack and William R. Jackson, Jr., *The Hired Farm Working Force of 1981* (U.S. Department of Agriculture, Economic Research Service, 1983); and *The Current Population Survey—Design and Methodology* (U.S. Bureau of the Census, 1978), Paper No. 40.

<sup>4</sup> See Ray Marshall, *Rural Workers in Rural Labor Markets* (Salt Lake City, Utah, Olympus Publishing, 1974); and Leslie Whitener Smith and Robert Coltrane, *Hired Farmworkers: Background and Trends for the Eighties* (U.S. Department of Agriculture, Economic Research Service, 1981).

<sup>5</sup> Based on average weekly earnings from *Employment and Earnings*, January 1983 (Bureau of Labor Statistics).

<sup>6</sup> This low-income measure was based on the following family size and income criteria. Families with annual incomes at or below these thresholds were considered to be economically disadvantaged for purposes of this study.

<i>Family size</i>	<i>Family income</i>
1 .....	\$ 4,999
2 .....	5,999
3 .....	7,499
4 .....	9,999
5-6 .....	11,999
7 .....	14,999

<sup>7</sup> Race or ethnic data are classified into three mutually exclusive groups based on a self-identification question. The groups are white, Hispanic, and black and other.

<sup>8</sup> *Money Income of Households, Families and Persons in the United States*, Series P-60, No. 138 (U.S. Bureau of the Census, 1983).

<sup>9</sup> Unpublished data from the March 1981 Current Population Survey (U.S. Bureau of the Census).

<sup>10</sup> The 1980 census adopted a new occupational classification scheme which greatly affects historical comparability for many occupations. However, efforts are underway to standardize occupational data for previous census years based on 1980 classification codes. See Charles Nam and others, "Historical Comparability of Occupation Statistics: Report of a Project," *Proceedings of the American Statistical Association*, 1982.

<sup>11</sup> See "Occupational rankings for men and women by earnings," *Monthly Labor Review*, August 1974, pp. 34-51.